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ABSTRACT

The document contains 10 papers from the 1973 John Tracy Clinic (Los Angeles, California) Summer Session for teachers on communication skills for deaf/blind children. J. Efron, the author of "Teaching Communication Skills to Deaf/Blind Children--Which Method?" examines advantages and disadvantages of several methods of teaching communication skills, offers some criteria for determining which method is most appropriate, and reviews principles of teaching communication skills to deaf/blind children. In "Acquisition of Communication Skills in the Normal Child," Efron lists stages of skill development in inner language, receptive language, and expressive language. A third paper by D. Cross, "Developing Language Skills in the Prelingual Deaf/Blind Child," contains a workshop outline. Described in question and answer format in a fourth paper (by Cross) is "A Program to Develop Communication and Language Skills via Coactive Movements and Imitation through Movement." A paper titled "The Speech Model" by L. Rowe offers a model which explains the progressions of speech learning which take place in specific lessons and in general learning situations. "Remedial Principles and Practices with the Hearing Impaired" (including lipreading, auditory training, and speech) are reviewed by E. Lowell. Subsequent papers contain guidelines on focusing and tracking for a child with impaired vision; activities for developing the kinesthetic sense, tactile awareness, the stereognostic sense, audition, and sense of weight and temperature; a "Developmental Learning Guide for Deaf/Blind Children" (compiled by D. Cross) which includes behavior and performance checklists, and sequential steps and activities in the areas of awareness of self and others, motor development, perceptual and readiness skills, conceptual skills, academics, and communication; and instructions for teaching practical life activities. (SB)

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JOHN TRACY CLINIC

SELECTED PAPERS

1973 SUMMER SESSION
FOR TEACHERS OF THE DEAF/BLIND

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Southwestern Region Deaf-Blind Center

Sacramento, California 95814

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FOREWORD

The John Tracy Clinic Summer Session for teachers of the deaf-blind is one of many activities funded by the Southwestern Region Deaf-Blind Center and is becoming an annual function.

The information contained in this report was compiled by teachers for teachers and may be utilized to supplement basic guidelines in enhancing educational programs.

We are pleased to make this final report of the Summer Session available to you and we invite your suggestions and recommendations in providing services to deaf-blind children throughout the southwestern region.

William A. Blea, Project Director
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INTRODUCTION

We have had requests to share some of the material presented in our summer programs for workers with the Deaf/Blind. Unfortunately, it is not within the scope of a usual summer program to prepare manuscripts covering all of the lecture materials. We have, however, attempted to collect under one cover the more significant handouts from our 1973 summer session. This year, rather than presenting a single unified point of view for teachers, most of whom already had completed a training program, we felt that an exposure of a variety of points of view might be most useful. We recognize that the handouts do not convey a clear picture of the course content, but hoped that they might be of interest and value to other teachers.

The theme for this year's program was Communication Skills for Deaf/Blind Children. The first seven papers relate to this topic. Some of them are specific to the field of Deaf/Blind and some relate to communication training for deaf children, which we felt served as a good background and had some carryover to work with the Deaf/Blind. We have also included three miscellaneous papers and two bibliographies.

The Faculty for the 1973 summer session included in order of their appearance: Miss Linda Rowe, John Tracy Clinic; Dr. Alathena J. Smith, John Tracy Clinic; Miss Deborah Cross, Lubin School, Sacramento; Mrs. Joy Efron, California State University, Los Angeles; and Miss Kathy Groves, Child Study Center, University of Oklahoma, Health Sciences Center, Deaf/Blind Program.

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TEACHING COMMUNICATION SKILLS TO DEAF/BLIND CHILDREN: WHICH METHOD?

Joy R. Efron, Assistant Professor

Coordinator, Multi-Handicapped (Deaf/Blind) Teacher Training Program, Californina State University, Los Angeles

INTRODUCTION:

Controversies over the "best method" and "best approach" of teaching language and communication skills to deaf children and to deaf/blind children have raged since the first attempts at educating children with hearing impairments. This writer feels very strongly that honest differences of opinion and subsequent intelligent discussion can improve and strengthen a profession. However, the almost fanatical commitments of some educators to one communication method or to one language approach accompanied by refusal to consider alternatives has been detrimental and of great disservice to the children they profess to serve.

Amidst the battle of the method and the approach, two vital facts are often overlooked:

1. We are attempting to teach communication skills (oral, manual, total, analytic, synthetic approaches are of secondary importance).
2. We are teaching children who have all the normal needs of children, and, in addition, have special needs.

This writer's contention is that certain children will learn best by one method or approach and other children will learn best by an entirely different method or approach. Therefore, the teacher of deaf/blind children who attempts to use the same method of teaching communication skills to all her students will not be nearly as successful as the teacher who chooses the method most appropriate for each individual child.

Therefore, this paper will examine (1) advantages and disadvantages of several methods of teaching communication skills to deaf/blind children; (2) some criteria for determining which method is most appropriate for each child; and (3) principles of teaching communication skills to deaf/blind children regardless of methodology used.

ADVANTAGES AND DISADVANTAGES OF VARIOUS COMMUNICATION METHODS:

Consideration is given below to each of the following:

1. Tadoma
2. Fingerspelling
3. Sign Language
4. Natural Gestures
5. Primitive Signal
6. Rochester
7. Total Communication

Description	Advantages	Disadvantages
1. Tadoma or Vibration: an oral approach to the teaching of speech and speechreading through auditory, visual, tactile, and kinesthetic means	a. Deaf/blind person skilled in Tadoma can communicate with anyone as we live in a world in which speech is the chief method of communication. b. Multisensory approach--utilizes all residual senses. c. Special skills are required only on the part of the deaf/blind person skilled in this technique. d. Allows for full interchange of ideas. e. Communication can take place at normal conversational speed. f. Conforms fully to morphology, syntax, and grammar of English. g. Useful for person with little or no vision.	a. Social disapproval--many people do not want someone's hand on their face as required by this technique. b. Most difficult and abstract of all the communication methods. Poor choice for person of low intellectual potential.
2. Fingerspelling: letters of the alphabet spelled on the fingers of one hand, exactly as one would speak or write (either spelled so deaf/blind person can receive visually or tactually as needed).	a. Allows for full interchange of ideas. b. Conforms fully to morphology, syntax, and grammar of English. c. Useful for person with little or no vision.	a. Special skills are required on the part of the person with whom the deaf/blind person communicates. b. Very slow method of communicating as compared to other methods. c. Difficult, abstract communication method; poor choice for person of low intellectual potential.

Description	Advantages	Disadvantages
3. Sign language:		
a. Ameslan-- a formal language based on concepts rather than words; ideographic language (like Chinese or Japanese) where one movement may express an entire thought.	a. Faster than fingerspelling. b. Easier to see at a distance than fingerspelling. c. Can communicate to people with varying degree of language ability; each person interprets at his own level. d. Much more concrete and more easily understood than fingerspelling or speech.	a. Special skills (more so than any other method) are required on the part of the person with whom the deaf/blind person communicates. b. Lacks precise meaning--not enough signs. c. Does not conform to morphology, syntax or grammar of English (poor correlation with reading, writing, speaking). d. Limited usefulness for person without vision unless he had learned sign language prior to loss of vision.
b. SEE (Signing Exact English or Seeing Essential English)--represents an organized attempt to make sign language more compatible to the morphology and syntax of English.	a. Conforms much better than Ameslan to morphology, syntax and grammar of English. b. One-to-one correspondence between English word and SEE sign. c. Attempts to add tense, plurals, possessive, conjugation, some punctuation. d. Better correleation than Ameslan to English reading, writing, speaking.	a. Slower than Ameslan. b. Less pictorial and less concrete than Ameslan. c. Generally disliked by older deaf people as it represents tampering with their language. d. Various SEE groups have their own (different) signs for different words (not yet unified).

Description	Advantages	Disadvantages
4. Natural Gestures: movements which seem to develop spontaneously among human beings and are pretty universally understood, i.e. shiver if cold; hold stomach and grimace if person has stomach ache; wave good-bye.	a. Normal children, deaf children, and many deaf/blind children use gestures naturally to communicate needs and desires. b. If no other communication exists, it becomes essential. c. Can be used to supplement and clarify meaning of other methods. d. Little special skills required on part of person with whom deaf/blind person communicates. e. Quick method of communication. f. Clearly communicates concrete ideas.	a. Limited interchange of ideas is possible. b. Not English--does not conform to morphology, syntax, or grammar.
5. Primitive Signal: generally limited to tugs and taps on various body parts, i.e., pat at genital area if need to go to bathroom; touch mouth if hungry.	a. Can be used with the lowest functioning children; much better than no communication at all. b. Quickly communicates concrete ideas.	a. Extremely limited communication. b. Does not conform to English at all. c. Some (limited) special skill required on part of person with whom deaf/blind person communicates.

Description	Advantages	Disadvantages
6. Rochester: simultaneous combination of speech, speechreading, and fingerspelling (no signs).	a. Conforms fully to morphology, syntax, and grammar of English. b. Full interchange of ideas is possible. c. Advocates claim that with presentation of both speech and fingerspelling, child has two options from which to choose to learn.	a. Criticism of oral opponents: (1) Since fingerspelling is easier to learn than speech, child will learn manual and not oral if both are presented. (2) Normal flow of English is impaired because simultaneous spelling slows down the spoken language. b. Criticism of Manual (sign language) opponents: (1) Fingerspelling is too slow. (2) Signing is easier to understand than fingerspelling. (3) Signing can be received at a greater distance than fingerspelling.

Description	Advantages	Disadvantages
7. Total Communication: simultaneous combination of speech, speechreading, fingerspelling, and signs, has gathered momentum and widespread acceptance and usage within the past few years.	a. Utilizes every possible means to clarify meaning.	a. Few teachers have the requisite skills to do Total Communication well, resulting in: (1) Speaking in complete sentences but only signing key words. (2) Presenting manual only (no speech or lips moving with no sound or whispered speech). (3) Seemingly forgetting rules of good oral instruction, i.e. Light on teacher's face--not child's Child attending to teacher Teacher within visua range of child.
	b. If there is no sign, or specific meaning is needed, the word is fingerspelled.	b. It is very difficult to incorporate vibration along with the manual (generally one must precede the other, resulting in saying everything twice.) Therefore, most teachers are eliminating vibration and are depending purely on the child's defective vision.
	c. By combining fingerspelling and signs, manual is speedier than fingerspelling alone and can be better coordinated with speech than in the Rochester method.	c. Despite the usual advantages of a multisensory approach, there are many children with learning disabilities who suffer from problems of overloading (similar to a short circuit in the brain) if too many avenues are stimulated simultaneously.
	d. Child can choose his own method, according to advocates.	

SOME CRITERIA FOR DETERMINING APPROPRIATE METHOD FOR EACH CHILD:

Basically, it can be determined from the charts that the hierarchy in terms of difficulty is as follows:

1. Primitive Signal — EASIEST (MOST CONCRETE)
2. Natural Gesture
3. Sign Language (or Total Communication) — ↕
4. Fingerspelling (or Rochester)
5. Speech (Tadoma) — MOST DIFFICULT (MOST ABSTRACT)

Therefore, in view of the level of difficulty and the various advantages and disadvantages of each method previously discussed, the following criteria are presented in determining which method to try with a particular child. Bear in mind that use of this must be flexible, and as children grow and progress (or fail to do so), it may be advisable to change method and/or techniques being used.

1. Use of Tadoma (Vibration) - oral approach
    - 1.1 Evidence on part of child of desire to communicate
    - 1.2 Intelligent child
    - 1.3 Imitative ability
    - 1.4 Representational behavior
    - 1.5 Interested in speech and vibration
    - 1.6 Likes people and responds well to physical contact
    - 1.7 Useable hearing desirable (amount of vision is not important)
    - 1.8 Child with patient perseverance
2. Fingerspelling or Rochester -- (1st four criteria same as above)
    - 2.1 Evidence on part of child of desire to communicate
    - 2.2 Intelligent child
    - 2.3 Imitative ability
    - 2.4 Representational behavior
    - 2.5 Interested in copying hand configurations
    - 2.6 Especially good for child with above characteristics, but who does not like physical contact
    - 2.7 Amount of hearing and vision is not important

2.7.1 If good vision, fingerspell so child can see.

2.7.2 If poor vision, fingerspell into child's hand.

2.8 Better for more impatient child than above

3. Sign Language (or Total Communication)

3.1 Evidence of desire to communicate (less required than fingerspelling and speech)

3.2 Child with less academic or intellectual potential than required for speech or fingerspelling since sign language is not complete English, therefore, incomplete communication

3.3 Less imitative ability

3.4 Little representational behavior

3.5 Lack of interest in speech, vibration, and fingerspelling

3.6 Amount of hearing is unimportant

3.7 Must have vision

3.7.1 Do not use with tactile child

3.7.2 Do not use with child with tunnel vision

4. Natural Gestures

4.1 Seldom used as only method of communication--would be used in conjunction with speech, fingerspelling and/or signs to facilitate meaning.

4.2 Since instruction via oral, fingerspelling and signing methods is meaningless initially, gestures can be used in conjunction to give child a way to communicate as soon as possible.

4.3 If used as exclusive communication method, it would be for very low functioning child for whom communication expectations are of a very basic level.

5. Primitive Signal*

5.1 Lowest functioning children--at infantile level of behavior in many areas.

5.2 No demonstration of desire to communicate

5.3 Wrapped up in own little world

5.4 Amount of hearing and vision unimportant

5.5 Little social or environmental awareness or response

*If child starts responding to signals try:

a. Horizontal improvement--increasing number of symbols understood and used by child, and/or

b. Vertical advancement--using a higher level of communication (more complicated gestures or signs)

PRINCIPLES OF TEACHING COMMUNICATION SKILLS TO DEAF/BLIND CHILDREN REGARDLESS OF METHOD USED:

1. Remember--language learning is based on experience.

2. Remember--receptive language must precede expressive language. Therefore, child must understand before being asked to say, sign, spell, or gesture.

3. Communication must be conveyed initially by physical contact since the children get little or no clues from tone of voice, smiles, or facial expression. Spanking to prohibit an action and warm tenderness to show approval may constitute the first real communication.

4. Talk about what the child is doing at every opportunity, but structure your speaking. Be sensible about it--don't grab his hand (if vibration) or attract his attention (manually) if child is engrossed in an activity.

5. Instruction in communication should be integrated with all areas of the curriculum and, in addition, there should be specific periods of instruction. These periods should be brief, many in number, structured, well-planned and fun.

6. Approach should be multisensory as much as possible, regardless of whether using oral, manual or combined. Utilize all residual senses--hearing, vision, touch, vibration--unless child appears to have the type of learning disability in which "overloading" occurs when all sensory channels are stimulated simultaneously.

7. Careful teacher preparation is a must for all lessons, especially those dealing with the acquisition of communication skills.

8. Physical factors must be given careful consideration:(Refer to John Tracy Clinic Manual):

   8.1 Make sure there is sufficient light, without glare.

   8.2 The light must be on your face, not his, so face the light.

   8.3 Be at your child's eye level, even if it takes a deep knee bend. Do not bend from the waist; bend from the knees.

   8.4 Be far enough apart for him to focus his eyes on your lips, but not so far apart that he can't see them.

9. Give clues to what you are talking about--show him, take him, gesture--then say it again without clues.

10. Once child understands meaning of word, expect him to respond to word alone, without additional clues, i.e., gesturing, pointing, dramatization, etc.

11. Once child understands meaning of word, as shown by appropriate response, he should be taught to use word expressively.

12. Once child uses word expressively, he must do so in order to get what he wants (even if all you get is a crude approximation at first--i.e., /m m m l/ for milk or part of the sign.) Normal child who hears correct patterns of speech, reproduces only part of what he hears at initial attempts to use expressive language.

13. Listen to what the child says--more important than how he says it.

14. Don't correct speech, fingerspelling or signs in the beginning. Accept any attempt. Show you are pleased. Repeat his words clearly.

15. Get connected language as soon as child has anything to connect.

16. Work on refining expressive language (i.e., get whole word "milk" working towards, "May I have some milk, please?" or whole sentence signed).

17. If working on particular word or phoneme or fingerspelled letter, work on it and then always put it back into the sentence--into context; i.e., "Do you want milk? Milk. Milk. Milk. Do you want milk?"

18. Use a natural language approach with carefully selected vocabulary.

    18.1 Use full sentences with full intonation, facial expressions and natural gestures.

    18.2 Use short, clear, complete sentences.

    18.3 Try to make sentences simple initially (present tense, no compound subject or predicate--Roberts kernel sentence VP plus NP), i.e.,

    Jane eats lunch.
    Ricky eats lunch.
    Jane sings.
    Jane dances.

    18.4 Vocabulary selected should enable child to manipulate his environment; therefore, it should relate to the needs and interests of the child.

    18.4.1 Refers to basic physiological needs--eat, drink, bathroom, sleepy

    18.4.2 Refers to playful desires--toys, music

    18.4.3 Useful phrases, i.e., "I want that," "yes," "no."

18.5 Use simple words and simple sentences. Don't use extra, unnecessary words. Repeat important words and then put them back into a complete sentence.

18.6 Repeat over and over, varying the sentence structure slightly, but keeping it simple.

19. Meaningful repetition—in different settings and with different materials, although language (which must be repeated over and over) remains the same; i.e.,

If you are using an analytic approach and working on phoneme (or fingerspelled) /b/--use ball, bird, bee, board, bat, baby, etc.

If working on word "hat"--have many, many different hats (baseball, straw, feathers, fur, etc.)--try them on.

20. Use common everyday materials in your lessons.

21. Go from the concrete to the abstract; i.e., real dog to toy dog to photograph to picture to crude skeleton of a dog--

Go from the concrete to the abstract; i.e., a real car to a toy car to a photograph to a picture to a crude skeleton of a car.

CONCLUSION:

Each of the communication methods discussed has distinct advantages and disadvantages. Hence the "best" method for one child may be the "poorest choice" for another child. The effective teacher of deaf/blind children must be open-minded, flexible and willing to try various methods and approaches--adapting her techniques to the needs of each individual child instead of trying to mold the child to conform to her ideas of the "ideal" communication system. Regardless of methods used, principles of good language instruction remain the same and should never be forgotten.

ACQUISITION OF COMMUNICATION SKILLS IN THE NORMAL CHILD

Scale compiled by Joy R. Efron

Inner Language Skills

	Normal Age Skill Occurs
Recognizes the breast or bottle and connects it with a familiar face regardless of perspective.	5-6 weeks
Begins to regard surroundings with more discrimination.	2 mos.
A smile is used meaningfully, not just as a reaction to sensation; child smiles at appearance of human face.	3 mos.
Recognizes mother and other familiar attendants.	4 mos.
Smiles at mirror image.	5 mos.
Discriminates family members from strangers.	6 mos.
Responds to facial expressions and gestures.	7-8 mos.
Reaches and pats mirror image.	
Talking still isn't more than play; does not really understand it as communication.	12 mos.
Varies behavior according to emotional reactions of others.	
Remembers places; indicates this by behaving in particular ways.	19-20 mos.
Knows simple routines.	
Goes to a place to indicate a need.	

Receptive Language Skills

	Normal Age Skill Occurs
Anticipates feeding by sounds and visual stimuli.	3 mos.
Looks at speaker's face.	
Turns head on hearing a familiar sound.	5 mos.
Responds differentially to friendly and angry voices.	6 mos.
Discriminates strangers.	
Responds differentially to a vacuum cleaner, phone, doorbell, dog barking.	
Turns head to the sound of human voice.	7-8 mos.
Responds to own name and "Come," by stretching arms toward mother, if she holds her arms as if to pick him up.	
More concerned with practical events, physical objects and tones of voice and inflections than with words.	
Begins response to words with gestures, such as patty-cake, bye-bye.	8 mos.
Listens to different sounds.	9 mos.
Temporarily ceases activity when he hears his own name.	10 mos.
Understands "bye-bye," "dada," "mama," "no."	
Understands gestures.	12 mos.
Gives toy on request accompanied by gesture.	
Attends to simple commands	
Understands "Where's the ball?" "Look at me," "Give me the ________."	
Attends to person speaking to him.	13-17 mos.
Finds "the baby" in pictures shown to him.	
Looks toward family members or pets when named.	

Receptive Language Skills (Cont.)

	Normal Age Skill Occurs
Listens to simple songs and rhymes.	18 mos.
Understands "Come here," "Throw the ball," "Give me a kiss," and simple questions.	
Inhibits activity at "No-no" or name.	
Recognizes many pictures that he cannot name.	
Can point to familiar objects in pictures, in rooms, parts of body.	
Follows one-stage commands.	19-20 mos.
Follows two out of three verbal directions unaccompanied by gestures.	21-23 mos.
Points to one body part when named.	
Listens to simple stories.	24 mos.
Understands simple directions.	
Responds to, "What is your name?" "What does the doggy (eat) say?" "Show me a man (dog, hat)."	
Understand "Just one," as in "just one block."	25-30 mos.
Understands three propositions.	28 mos.
Attends longer to stories and television.	31-35 mos.
Points to additional body parts when named.	
Follows command asking for two objects.	36 mos.
Responds to "show me the one that _______."	

Expressive Language Skills	Normal Age Skill Occurs
Reflexive vocalizations as involuntary response to stimuli (total bodily expression).	Birth - 6 wks.
Cooing, throaty sounds (glottal-velar consonants.)	1 mo.
Cry is differentiated according to cause and circumstances; i.e., pain, hunger, wet, etc.	2 mos.
Babbling -- random sound-making for the pleasure of feeling the sound (/p/, /b/, /h/, /g/, /k/, /d/).	2-6 mos.
Squirms, vocalizes in anticipation, spontaneous facial smile.	2 mos.
Coos, gurgles, chuckles, bubbles.	3 mos.
Laughs aloud when stimulated.	4 mos.
Babbles /o/, /gU/.	5-6 mos.
Coos to music.	
Differentiated sound for displeasure and eagerness.	
Babbles to faces and to mirrors.	
Lalling -- infant is aware of hearing his own sounds, and repeats them.	6 mos.
Commonly produces double syllables (/do do/, /bo bo/, /bu bu/, /pu pu/, /m m/, n n/, /tu tu/, /gu gu/.	
Indicates wants by crying.	
Uses different inflectional patterns (high and low pitched patterns).	
Shouts for attention (/h/, /d/, /g/, /m , /b/).	7-8 mos.
Uses projective voice to get attention for specific request.	
Produces vowels, consonants, syllables, diphthongs.	
Vocalizes to toys.	

Expressive Language Skills (Cont.)	Normal Age Skill Occurs
Echolalic -- hearing sounds of others and repeating them.	9-10 mos.
Has one or more sounds with meaning (i.e., "Mama", "Dada").	
Imitates definite speech sounds such as tongue click, lip smacking, or cough.	
Imitates gestures and facial expressions.	10 mos.
Vague tugging at adult to indicate a need.	
Increasing dexterity of tongue, lips, chewing, and swallowing musculature.	12 mos.
Can stick out tongue, produce /ng/ sound.	
Seeks attention through noise-making, coughs, squeals.	
May approach mirror image with vocalizations.	
Talking is still a form of play, accompanying action rather than substituting for it.	
Has two words which are specific for parents: "Mama," "Dada," or equivilants.	
Can wave "bye-bye" and can often say it.	
Indicates wants by gestures, pointing and vocalizations.	13-17 mos.
Has 2 - 6 words to denote specific objects.	15-18 mos.
Spontaneous "tata" (thank you).	
Jargon begins -- incomprehensible sentence, long vocalizations mimicking the intonation and inflection of English.	
May have expressive vocabulary of 3 - 100 words.	19 mos.
Begins dropping jargon.	
Verbalizations are accompanied by gesture or concurrent activity.	
Waves good-bye to indicate termination.	
Shakes head for "no."	

Expressive Language Skills (Cont.)

	Normal Age Skill Occurs
Goes to a place to indicate a need.	19-20 mos.
Can identify four objects in a box.	
Names one picture.	
Identifies objects in a group by gesture: comb, knife, cup, ball, toothbrush.	20 mos.
Can combine 2 words, i.e., "Daddy car" - relative to needs.	
Speaks about 20 words.	
Has consonants /d/, /h/, /b/, /n/, /m/, /t/, /w/, /g/, /k/, /s/.	
Pulls person to show him something.	21 mos.
Tries to tell experiences.	21-22 mos.
Combines his words into ideas expressed by "Daddy go bye-bye."	
Echoes two or more last words of an adult.	
Jargon discarded in favor of specific, meaningful phrases.	24 mos.
Combines nouns and present tense verbs in 2 or 3 word sentences. (Adverbs, adjectives, and prepositions occur to lesser extent). Nouns predominates in speech.	
Uses pronouns I, me, mine, you, but not always correctly. Calls self by name and "i".	
Talks about immediate experiences.	
May have expressive vocabulary of 200-300 words.	
Marked decrease in sound repetition.	
Has trouble producing consonants at the end of words.	

Uses basic syntactical forms of language, i.e.:

Daddy car	big car	ride car
my car	bye bye car	see car
two car	good boy	boy sleep

Pointing and facial expressions -- a definite part of non-verbal communication.

Expressive Language Skills (Cont.)

	Normal Age Skill Occurs
Can say, "What's that?"	24 mos.
Can name 5 pictures by name.	
Gives first and last name when asked	25-30 mos.
Repeats words and phrases, telescoping what adult said.	
Common expression: "I wanna".	36 mos.
Uses plurals, past tense, personal pronouns, prepositions.	
Has approximately 1,000 words in vocabulary.	
Frequent questions -- questions to which he already knows the answers.	
Average sentence length of 3 - 4 words.	
Speech may be infantile, but usually understood even by those outside the family.	
Repeats sentence of 12-13 syllables.	37-47 mos.
Begins to use language to tell stories, relate ideas, feelings, problems.	
Responds to "What do you do when ________?"	48 mos.
Uses pronoun "I" correctly.	
Questioning at peak (much in form of soliloquy).	
Names five colors.	60 mos.
Approximate vocabulary of 2,200 words.	
Language complete in form and structure.	
Counts meaningfully above 10.	
Uses language meaningfully in all situations.	6 years.

ASSESSMENT OF FUNCTIONAL LEVEL OF NON-VERBAL COMMUNICATION

Scale compiled by Joy R. Efron

Communication Skill	Normal Age Skill Occurs
Crying and not crying.	Birth
Cry is differentiated according to cause and circumstances, i.e., pain, hunger, wet, etc.	2 mos.
Squirms, vocalizes in anticipation, spontaneous facial smile.	
Begins to regard surroundings with more discrimination.	
Babbling -- random sound-making for the pleasure of feeling the sound.	2-6 mos.
Coos, gurgles, chuckles, babbles.	3 mos.
*Briefly looks at speaker's face.	
A smile is used meaningfully, not just as a reaction to sensation; child smiles at appearance of human face.	
Laughs aloud when stimulated.	4 mos.
Recognizes mother and other familiar attendants.	4 mos.
5 Differentiated sound for displeasure and eagerness.	5-6 mos.
Crying to express wants and laughing to express contentment.	6 mos.
Discriminates family members from strangers.	
Anticipates "order of day" - time sense based on physical needs and sensations.	
Interest in human voice (speech, sound, vibration) or gestures.	7-8 mos.
Uses projective voice to get attention for specific request.	
Responds to facial expressions and gestures.	

Communication Skills (Cont.)	Normal Age Skill Occurs
*Begins response to words with gestures, such as patty-cake, bye-bye.	8 mos.
Imitates gestures and facial expressions.	10 mos.
Vague tugging at adult to indicate a need.	
*Non-representational reference (child understands that adult is pointing to something).	12 mos.
Seeks attention through noise-making, coughs, squeals.	
Leads adults to a thing in the same room.	
Understands gestures.	
*Gives toy on request, accompanied by gesture.	
*Attends to simple commands.	
*Attends to person speaking to him.	13-17 mos.
Indicates wants by gestures, pointing and vocalizations.	
Points to things he wants parents to look at.	15 mos.
Spontaneous gestures, referring to an aspect, or object present, of immediate situation.	18 mos.
Waves good-bye to indicate termination.	
Shakes head for "no".	
*Listens to simple songs and rhymes.	
Leads adults to a thing in another room.	18-24 mos.
Simple one word gestures referring to an object not present or an activity which is being thought about by the child.	
Goes to a place to indicate a need.	19-20 mos.

Communication Skills (Cont.)

	Normal Age Skill Occurs
Knows simple routines.	19-20 mos.
Remembers places; indicates this by behaving in particular ways.	
*Follows one-stage commands.	
Pulls person to show him something.	21 mos.
Simple phrase gestures -- anything more than one single gesture.	
*Points to one body part when named.	21-23 mos.
Clear pointing and facial expressions with obvious meaning.	24 mos.
"Sentences" gestures.	
Story gesturing, conveying several related ideas.	37-47 mos.

*Will not be learned "incidentally" by deaf-blind child.

DEVELOPING LANGUAGE SKILLS IN THE
PRELINGUAL DEAF/BLIND CHILD

workshop presented by Deborah L. Cross

July 9, 1973

- I. Introduction
  - Overview of Developing an Educational Program
    - Who are our deaf/blind children?
      - Classification
        - Prelingual vs Postlingual children
        - Educational definitions

    - Where are our deaf/blind children functioning?
      - Description of the deaf/blind child
        - Hyper or hypactivity
        - lack of personal relationships
        - peculiar mannerisms
        - pseudo deafness and blindness
        - adaptation problems to change
        - lack of curiosity and initiative
        - poor sleeping, eating, toilting, habits
        - extremes in reaction to external stimuli
        - impaired sensory input creates chaotic perceptions

    - Where do we begin?
      - Looking at why our children function as they do
      - Study normal child development
        - world of pleasure and displeasure
        - near space, midspace and far space
        - level of sensation
        - level of movement
        - level of perception and cognition
        - development of language and communication
      - Importance of observation of the deaf/blind child
      - Importance of structuring the child's world

    - What areas need to be developed?
      - The demand for communication and language
      - Motor Development
        - Do we know why it is important?
        - How does it contribute to language?
      - Cognitive Skills
        - object concept
        - sorting and ordering
        - memory
        - causality
      - Perceptual Skills
        - visual trainigg
        - auditory training
        - tactual, gustatory and olfactory training
      - Self care
      - Language
        - experiences
        - communication

- What is a total Educational Approach?
  - Importance of familiarity with areas and resources from all areas of special education.
  - Methodologies
    - consider all possiblilities
    - determined by child
    - readiness for a communication system
    - communication systems
      - speech
      - speechreading
      - tadoma
      - fingerspelling
      - sign
      - gesture
        - formal
        - natural
      - writing
      - reading
  - Oralism, Manualism and Total Communication

- What is Communication and Language?
  - Definitions
    - language
    - communication
  - How are they developed?
    - motor
    - cognition
    - perception
    - experience
    - inner language
    - receptive language
    - expressive language
  - Observe what is involved in language development
    - component parts
      - imitation
      - anticipation
      - experiences
      - personal relationships
      - object consciousness
    - break down steps and sequences

July 10, 1973

II. Motor Development and Body Awareness and its Relationship to Language Acquisition

- Why is it important to language development & communication?
    - exploration and experimentation
    - thinking and reflecting
    - observing and attending to world
    - remembering past experiences
    - organization into meaningful experiences

    } Inner Languge involves
- Discussion
- Normal child development
    - level of sensation
        - near space development
        - receiving and reacting to stimuli and responding
        - world begins within body- security
    - level of movement
        - midspace development
        - exploration and discovery of
            - body parts
            - functions and abilities
            - locomotor possibilities
            - problem solving
            - use of objects in movement
                - use of object to get another object
                - use of object to move body
                - use of object to transport
            - body is separate from environment
            - movements of other people
    - Child gets feedback, motivation and reward
    - Movement has a purpose and objective
- The deaf blind child
    - limited senses limit feedback
    - remains at sensation level
    - world doesn't invite child
    - remains within body
    - attachment to environment
    - unaware of external stimuli
    - unaware of people
    - delayed locomotor
    - no inner language develops
    - no exploration, "knowing" or thinking behavoir toward body

Goals of motor development- parts of inner language

- awareness of self
    - parts space
    - functions locomotion
- awareness of objects
    - problem solving
    - use of objects
    - separation from objects
- awareness of others
- sense of belonging
- reaction to external stimuli
- anticipation- routines
- attention
- memory
- exploration vs stimulation
- conversation

NOW WE KNOW WHY

Areas to be developed

- Body awareness
- Spatial relationships
- Locomotion
- Gross Motor
- Fine Motor
- Tactual Skills
- Perceptual motor
    - organization of stimuli
    - contact, receit and propulsion
    - eyehand coordination
    - causality
- Imitation

Steps to development

- task analysis
- observation of child
- teach one step at a time
- move with child
- provide a variety of experiences
- general to specific action
- gross to specific refined control
- specific refined control to general system of movement

Body Awareness
- reaction to external stimuli
- body movement and postions
- imitation
- movement on command
- identification
- projection away from oneself

Motor Components
- agility
- balance
- coordination and rhythm
- endurance
- flexibility
- speed
- strength

Discussion on how motor skills develop language
- example of a child lacking such skills

Practicum

Demonstration and presentation of motor activities by participants

July 11, 1973

VII. Development of Perceptual Skills and their Relationship to Language acquisition

Definition of Perception

Perception's role in language development
- ability to perceive as well as receive stimuli
- ability to order or make sense out of stimuli
- attention to stimuli
- memory
- sequences
- discrimination
- perception helps child interpret and organize the stimulus he receives
- gain information from language experiences
- knowledge and ability to evaluate past experience
- see similarities and differences
- visual recognition and identification of familiar objects
- ability to analyse forms
- ability to comprehend and analyze total situation
- ability to perceive wholes and parts
- body knowledge
- visual motor coordination

Developmental Stages of Perceptual Development
- (Kephart)
- gross motor
- motor perceptual
- perceptual motor
- perceptual
- perceptual-conceptual
- conceptual
- (Frostig)
- sensory motor
  - awareness of self
  - awareness of others
  - awareness of environment
- language development
  - gathering information through experience
- perception
  - recognition of stimuli
  - comparing stored stimuli
  - relys on distance senses
  - imagery begins
- higher thought process
  - understanding relationships
  - concluding and evaluating
  - remembering

Areas of Perception to be Developed
- auditory
- visual
- tactual
- olfactory
- gustatory

- figure ground
- form constancy
- position in space
- spatial relatons
- visual motor

- visual tracking
- body awareness
- motor skills
- language for skills

- picture completion
- sequencing
- design copying
- form perception
- memory
- discrimination
- wholes and parts

Perceptual Training Tasks, Resources and Programs
- Dubnof
- Frostig
- Getman
- Kephart
- Fairbanks Robinson
- Ruth Cleves
- Pathway
- Vanguard
- Barsh
- Cratty

Practicum- Demonstrations and ——. Presentation of training tasks and materials

July 12, 1973

III. Development of Cognitive Skills as They Relate to Language and Communication

- Definition of cognition

- Development of Object Concept
    - sensory impressions are chaotic
    - information received but ignored or used for stimulation
    - child needs to order and structure impressions
        - aid in attention to environment
        - compare and sort objects
    - object permanence
        - existence and nonexistence
        - tracking
        - use of objects

- Levels of Object Concept
    - stimulation
    - exploration
    - usefulness
    - memory
    - construction & destruction

- Causality
    - cessation
    - instigation
    - continuation
    - cause and effect

- Problem Solving
    - motorically
    - object interaction
    - presentation of problems

- Discovering similarities and differences
    - sorting
    - matching

- Sequencing
    - concrete to abstract
    - vary qualities
    - begin simply and motorically
        - movements
        - objects
        - actions with objects

- Design Copying

Memory- Imagery
- recognition, retention and recall
- past experiences
  - law of similarity
  - law of contrast
  - law of frequency
- concrete to abstract
- vary-
  - quality
  - time
  - model
- routines and anticipation
  - objects
  - memory book
- motor activities
- objects
- designs
- whats missing

Concept Development
- convergent, divergent and evaluative thinking
- objects, exist, have permanance and similarities
- identification and naming
- identification of whole and defining characteristics
- grouping and categorizing experiences and details
- symbolization of generalization

- levels of concept development
  - concrete
  - functional
  - abstract

- time concepts

- Pictures or images
  - make pictures with child
  - pictures represent situation
  - add distance and time factors
  - find characteristic to represent situation
  - vary pictures
  - why are pictures necessary
    - encourages conversation
    - means of expression
    - aids memory
    - actualizes experiences

Practicum- Demonstration and presentation of activities relating to cognitive development

July 12, 1973

IV. Development of a Language and Communication System

- Myklebust's levels
    - conceptualization
    - symbolization
    - imagery
    - perception
    - sensation
- Signs vs signals
- senzation vs perception
- necessity for congnition and motor involvment
- Readiness for language
    - imitative
    - intentionality
    - development of object consciousness
    - social exchanges
    - pointing
    - attention to language
    - child's interaction with environment
    - causality
    - inner language
    - attempts to express self
    - anticipation
- Steps
    - adult directs attention
    - adult names and gives language to situation
    - adult makes world more surveyable
        - organization of environment
            - exclude distractions
            - routines
            - materials
            - subjects
        - sorting and comparing
        - characterizing
            - people
            - things
            - animals
            - events
            - time
            - moods
- Forms of language
    - body contact
    - visual contact
    - sounds
    - gestures

    - Naming
    - After naming comes learning of a formal language and communication system

July 16, 1973

V. Development of imitative skills to aid in language development

- Philosophy behind stages of imitative behavoir
    - observation of child
    - activities depend entirely upon child
    - breaking steps down. Study normal child development
    - movement is key to breaking level of sensation
    - importance of personal relationship
    - near, mid and far space

- Imitation
    - when does a child really begin to imitate
    - what is involved in imitation
        - awareness in self
        - awareness of objects
        - awareness of others
        - anticipation
        - movement skills
        - sense of distance and time

- Goals and objectives to stages which lead to development of imitative skills
    - lengthens attention span
    - anticipatory behavoir
    - dialogue of conversation
    - spatial relationships
    - memory and sequencing skills
    - directionality
    - body awareness
    - motor control and coordination
    - personal relationships

- Procedures to follow when developing stages
    - start at consistent point
    - move left to right
    - shoes and socks removed
    - keep child moving
    - structure depends on child
        - same place
        - same time
        - same person
    - adapted to child
    - objects should be used
    - order of activities
        - movements
        - positions
        - movements and position
        - object and movement
        - object and position
    - group sessions
    - note any special problems

Stages in developing imitative skills
- Coactive Movements or moving with child
- Transitional steps
- Imitation
    - time and distance involved
    - movements and position
    - sequences
    - pictures
    - fingerspelling, speech and signs

Where does imitation take us
- interaction and awareness of others
- conversation- response and feedback
- specific communication forms

Practicum- Demonstration and presentation of stages to developing imitative skills with children.

July 17, 1973

VI. Developing Language through Experience and Conversation

- Constructionalism vs Naturalism
  - definition
  - constructionalism
    - teaching child to be deaf
    - language as a foreign language
    - structures what and how language is used
    - one way conversation
    - language is taught
  - naturalism
    - follows normal child's language development
    - language is experienced and developed
    - teaching concepts rather than words
  - Examples of constructionalism vs naturalism

- Importance of Conversation
  - definition
    - two way exchange of thoughts
    - interaction between people
    - continuous feedback
  - start synthetically
  - purpose or need for communication
  - meaningful
  - listening to child
  - building anticipation
    - attention of child
    - structure world
    - provide language model
    - observe child and interprete
  - child has something to talk about
  - anticipation makes child talk about what will be
  - memory- child talks about what was

- Experiencial Learning
  - play
  - cooking
  - art
  - object exploration and comparisons
  - story time and pictures
  - walks
  - field trips

- Developing language after naming
  - words are abstractions
  - connection of special signal to word
  - child normally hears word
    - many times used
    - many ways
  - word is applied to experience
  - talk to child all times
  - draw child's interest
  - put words into writing or pictures

Language Concepts (see Project Life)

A. Self Concept
- Identification
  - names
  - boy, girl concept
- body
  - parts
  - function
  - self care
  - growth
- physical needs
  - food
    - kinds
    - meals
    - preparation
    - origin
  - clothing
  - shelter
- feelings
  - physical needs
  - emotions
  - showing feelings
- everyday activities
  - routines
  - recreation

B. Social Relationships
- family members
- characteristics of members
- names of members
- jobs of members
- neighbors
- school people
- community helpers

C. Physical Environment
- Home
- Neighborhood
- School
- Community

Language Learning in Two Children
- Dwight
- Ann

Practicum- Demonstrations with children and presentation of language experiences by participants

July 18, 1973

VIII. Preparation, Presentation and Evaluation of Instructional Tasks and Materials

- Preparation of Instructional Tasks
  - objectives
    - answer following questions
      - why?
      - what are steps to achievement?
      - what should child be able to do?
      - What remedial activities might be needed?
      - How will we know if child has suceeded?
      - What follow up tasks should be presented?
  - Structuring task
    - reduce distractions
    - structure space
    - structure materials
    - awareness of attention span
    - eliminate opportunity for failure
    - active involvement
    - visible ending
  - Rewarding
    - When?
    - How?
      - frequency
      - duration
  - General Rules
    - establish routines
    - work periods and "rest" periods
    - easy to complex
    - nonsocial to social
    - concrete to abstract
    - nonverbal to verbal
    - no memory to short term to long term memory
    - involvement
- Presenting and Evaluating the task
  - Areas of difficulty
  - Beginning task
    - past knowledge
    - present learning
    - future learning and use
  - End with sucess

Reward desired responses
Avoid overloading
Alter task over using force
Avoid monotony and boredom
Restructure task if unsucessful
Observe and identify behavoir and attitude toward task
Allow child to take initiative and lead task

Rating the Task

- Origin of behavoir
  - bored or frustrated
    - too easy
    - too hard
    - too teacher oriented
  - child's mood
  - Illness
  - teacher's mood
- Performance
  - begins task
  - initiates task
  - finishes task
  - performs task after demonstration
    - with no repetitions
    - with much repetitions
    - needed manipulation
  - understood task and directions
  - capabilities of child to perform
  - motivation
  - distractibility
- Performance behavoir
  - cooperative
  - attentive
  - child performed task
    - passively
    - actively
    - resisted
    - with interest

    - no help
    - minimum help
    - maximum help

Practicum- Presentation and construction of instructional materials. Demonstration of use in a task Continued demonstration of language principals with children.

July 19, 1973

Individual presentation of tasks centering around language principals covered in workshop.

July 20, 1973

Continued presentation and evaluation of tasks by participants.
Discussion of presentation

Conclusion and summarization of main points.
Discussion and questions.

A PROGRAM TO DEVELOP COMMUNICATION
AND
LANGUAGE SKILLS VIA COACTIVE MOVEMENTS AND IMITATION
THROUGH MOVEMENT

WRITTEN BY DEBORAH CROSS

I. What is the background of the program?

A. Originally developed in the Deaf-Blind Department at At. Michielsgestel School for the Deaf in Holland.

B. It is designed to take the child from the prelingual and preimitation stages to the stages of imitation and communication by means of movement.

*C. The methodology gives the teacher an equation or formula for taking the child through these stages. There is no prepackaged recipe for the child and teacher to follow.

D. The specific activities within the program are determined by the child and his teacher. This is true for both the starting point of the program as well and the final activities. The teacher must watch the child observing what he does and how he moves and begin with that.

II. What is the philosophy behind the program?

A. It is imperitive to closely examine the rubella child and observe all he does. The rubella deaf-blind child is a child imprisoned in his own body. This is his world and his only stimulant. It is therefore important to draw the child out of his body and into his environment.

B. This is done by breaking the steps to learning down into very fine and minute steps. It is important to study normal child development (Piaget, Gesell).

C. The child can move beyond this stage of self-stimulation only by moving and going out into his environment. He cannot learn about his environment, others, or any system of communication until he first learns and becomes aware of himself, his body and what he can do with it. He does this through movement.

D. Imitation is a very vital stage toward communication. However, this is not the first and only step. It is futile to expect these children to imitate when they first do not know themselves. We must take these children through the stages of Coactive Movement first.

E. Jane Hart (Where's Hannah) explains what happens in the young child's development.

  1. Near Space (taste, touch, and smell)
     The infant's world in the beginning exists only within his body and his reach. This is where the rubella deaf-blind child is in the beginning.

  2. Mid Space (kinesthesia)
     The child then begins to move out into his environment and begins to discover his body and that he can do other things with it other than just being stimulated. This is the key to the beginning. This is where we need to start with our children. We need to get them to MOVE in space and begin to interact with their environment.

  3. Far Space (Hearing and Vision)
     The child now begins to learn through his distance senses. He now is capable to imitate and learn specific forms of language and communication.

The child must successfully go through each of these stages before he can move to the next. This program is intended to bring the child through these stages.

What does the program do for the child?

A. It lengthens attention span by demanding that the child concentrate. It requires the total involvement of the child.

B. It increases and develops anticipatory and expectation behavior.

C. It creates a dialog of conversation between child and teacher involving both receptive and expressive language on a concrete level.

D. It helps establish appropriate spatial relationships and body skills. It encourages the child to venture into his mid then far space and explore his environment.

E. It aids in developing memory and sequencing skills.

F. It aids in the development of directionality.

G. It enables the child to discover and become more aware of his body, it's parts, and what he can do with it. It assists him to realize that he can "use his body as a medium of representation." (Van Dijk)

H. It aids in developing better motor control and co-ordination.

I. It helps the child to better relate to adults and to his environment. It helps to draw him out of his own body and his own world.

J. It develops proper prereading skills - left to right orientation and the recognition of the printed symbol.

IV. What procedures should be followed when implementing the Program?

A. Always start the child from one point (the beginning) with the movements going in ONE direction if necessary toward a natural stopping point (wall, curtain, edge of rug, etc.). It may be necessary to reduce the amount of floor space if the child has problems handling large spaces (for example: do floor movements in a path made by a wall and a bench).

B. When approaching the starting point always move left to right.

C. Shoes and socks and any bulky items of clothing should be removed to give the child more freedom and to increase his body awareness.

D. Keep the child moving regardless of resistance. Avoid allowing the child to drift back into his world. It may be necessary to manipulate the child's body in the beginning.

E. The amount of structure or routine DEPENDS on the child but it should take place at the same time, same place and with the same person.

F. The program should be adapted to the child and his needs and interests. Benches, chairs, tables, balls, hoops and other objects may be utilized to give the child more experiences in interacting with his environment.

G. Order of Activities (suggested)
- Movements
- Positions
  - Symmetrical
  - Asymmetrical
- Positions and Movement
- Object and Movement
- Object and Position
- Object, Movement and Position

person to person
object to object
person to picture
picture to picture

H. As child appears ready, have group sessions to increase awareness of others.

I. In addition, give the child other experiences in motor activities:sorting, auditory and sequencing activities.

J. NOTE: Development of dominance
Balance problems
Co-ordination difficulties
Peculiarity in posture, positioning of limbs, trunk and head.

V. What are the stages in this program?

A. CoActive Movements

1. Child and teacher move together utilizing movements familiar to the child and in his repetoire.

2. It should be fairly structured in the beginning depending on the child's ability to cope with changes.

3. All movement activities are to be geared to the child.

4. As the child begins to attend to the adult, anticipates movements and remembers routines begin to -
   - -hesitate and let the child take over
   - -vary routine movements and/or change direction or movements in midstream.

5. Language is being developed in terms of movement. Specific language forms are not introduced at this time.

B. Transition Stage

1. When the child fully attends, can follow along with all movements done with understanding and some "reflection" on what he is doing (not in a robot mimicing like motion without awareness of what is happening) and is aware of the adult and what she is doing, it is time to INCREASE the physical DISTANCE between the child and teacher.

2. Activities which refer to the parts of the body may be done - clay modeling, complete missing parts, trace the body, doll play, etc.

C. Imitation - the factor of physical distance and time is involved.

1. The child can now retain the entire movement and reproduce it from memory.

2. Movements and positions can include a sequence of patterns.

3. Pictures may be introduced on the board and on flashcards to represent different movements and positions. The child can now comprehend and interpret a printed symbol.

4. The introduction of fingerspelling and other communication and language forms can be included from this point on (signs, fingerspelling, reading and speech).

5. The child should be given opportunities to take the initiative and have the teacher imitate him.

SUGGESTED

SEQUENCE OF ACTIVITIES DONE ON

VIDEO TAPE OF A RUBELLA DEAF BLIND CHILD

TAKE OFF SHOES AND SOCKS.

I. CoActive Movements (child and teacher move together)

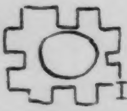
Scoot forward
Sway
Scoot forward
Sway
Crawl forward
Sway
Roll
Sway
Walk backwards

Walk on bench
Scoot sideways
Scoot forward

Sway
Scoot forward
Turn around
Sway
Scoot backward
Sway
Cross legs
Draw legs up

Stand on chair-
  Arms up
  Arms out
  Kneel

Use blocks - Stack at end
  Crawl through
  Scoot through forward
  Scoot through backwards



Sway
Scoot, turn and scoot backwards
Jump
Crawl, turn and crawl backwards
Jump

Bench -
  Scoot sideways and change sides
  Scoot forward, then straddle scoot

Chair -
  Cross legs
  Hold legs
  Stamp legs
  Clap hands
  Tap head
  Hands at hips
  Hands on head
  Hands at side

II. Transition (Begin to increase distance)

Floor -
  Scoot
  Turn around
  Monkey walk
  Turn around
  Crawl backwards
  Turn around
  Knee walk

Bench -
  Scoot sideways
  Walk backwards
  Drag body on stomach
  Drag body on back
  Scoot and change direction
  Walk and Scoot
  Scoot and Crawl

III. Imitation (child copies entire pattern himself)

Bench -
  Scoot with legs at side
  Crawl backwards
  Monkey walk
  Scoot forwards, then backwards
  Monkey walk, then crawl

Chair - (CoActively)
  Clap hands long and short
  Slap hands big and little
  Tap head
  Fold hands over and over

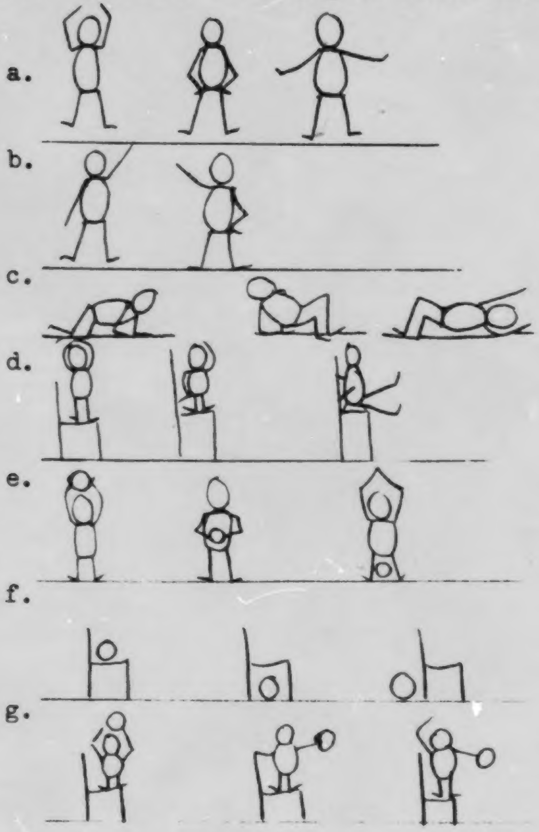
Chair (con't.) - (Imitatively)
  Arms out
  Arms up
  Clap hands
  Stamp legs
  Tap shoulders
  Stand on chair
    Arms at hips
    One arm on head, one at hip

Bench - Imitation of arm positions

Child at one end stationary.
Child imitates arm positions as teacher moves further down the bench. Child walks to end and jumps.

Mannikin or Doll - Child imitates various positions of model.

Board - (teacher draws figure on board and child responds)



Flashcards - Child imitates pictures of above work. Teacher does and child draws picture. Child points to picture which teacher does. Child matches card with board drawing, etc.

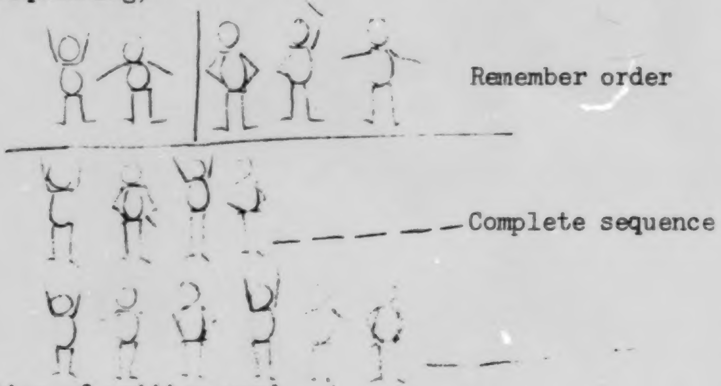
III. Imitation (con't)

Hand imitation
- open, close
- finger positions

Picture imitation of fingerspelling positions (repeat activities done with body position flashcards)

Bench -
- Hold ball under arm and walk
- Hold ball and scoot
- Hold ball on head, stomach, and out-walk
- Walk, arms on head, then out
- Walk, arms on hips, out and on head
- Turn around, walk to center and crawl
- Scoot, crawl, stand and turn around
- Hands on head, turn around, scoot sideways, stand and jump
- Hold ball at back, turn around, walk length of bench and turn around

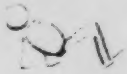
Board Sequence and Memory
(Previously done with much practice in beginning sorting, matching and sequencing)



Introduction of written word

CRAWL - spell, say, do and repeat

WALK - spell, say, do and repeat



SCOOT - spell, say, do and repeat

Continue building vocabulary - draw object with child (object is present)
juice, cup, glasses, coat, bus

THE SPEECH MODEL

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THE SPEECH MODEL

Teaching speech is one of the most complex tasks challenging the teacher of the deaf. This article presents one approach used to teach speech to deaf pupils at John Tracy Clinic. In explaining this approach to colleagues and students, we have found a physical model useful in distinguishing the various processes involved.

The Speech Model was designed by the late Marguerite Stoner to describe the learning of a particular speech skill from its beginning to incorporation into spontaneous speech. The model grew out of her more than thirty-five years experience teaching deaf pupils, guiding their parents, and training teachers.

It is more fully described in three films (Z101-2-3) that are part of a series of 42 films "Teaching Speech to the Profoundly Deaf" produced by John Tracy Clinic under contract with Media Services and Captioned Films for the Deaf, Bureau for the Education of the Handicapped, U. S. Office of Education, Washington, D. C. These films are available on loan from Media Services and Captioned Films for the Deaf.

The Speech Model is an inverted pyramid. The inverted shape was chosen to indicate the progressively broader aspects of learning a speech skill, culminating in the AUTOMATIC PRODUCTION STAGE. Each face of the pyramid is divided into three vertical sections. These sections are:

(1) STAGES - Referring to the stages of learning.

(2) PROCESS - Referring to the learning process that takes place at each stage.

(3) PRACTICE - Referring to the type of practice appropriate at each stage.

- -

Please place Figure 1 here or near

- -

Each of the vertical divisions is further sub-divided as follows:

(1) STAGES

A. PRESENTATION

At the PRESENTATION STAGE new speech information is merely presented to the pupil. He is not expected to make any overt response to this presentation. All new skills that the pupil must be taught in speech begin at this stage. Of course, the more sophisticated and knowledgeable the pupil becomes, the shorter the period spent at the PRESENTATION STAGE. This stage of speech learning can be compared to the RECEPTIVE STAGE of language learning.

B. IMITATION

At the IMITATION STAGE the pupil no longer plays a passive role. The teacher expects the pupil, as a result of his earlier exposure to the speech skill, to be able to copy her patterns or act on information

Speech Model

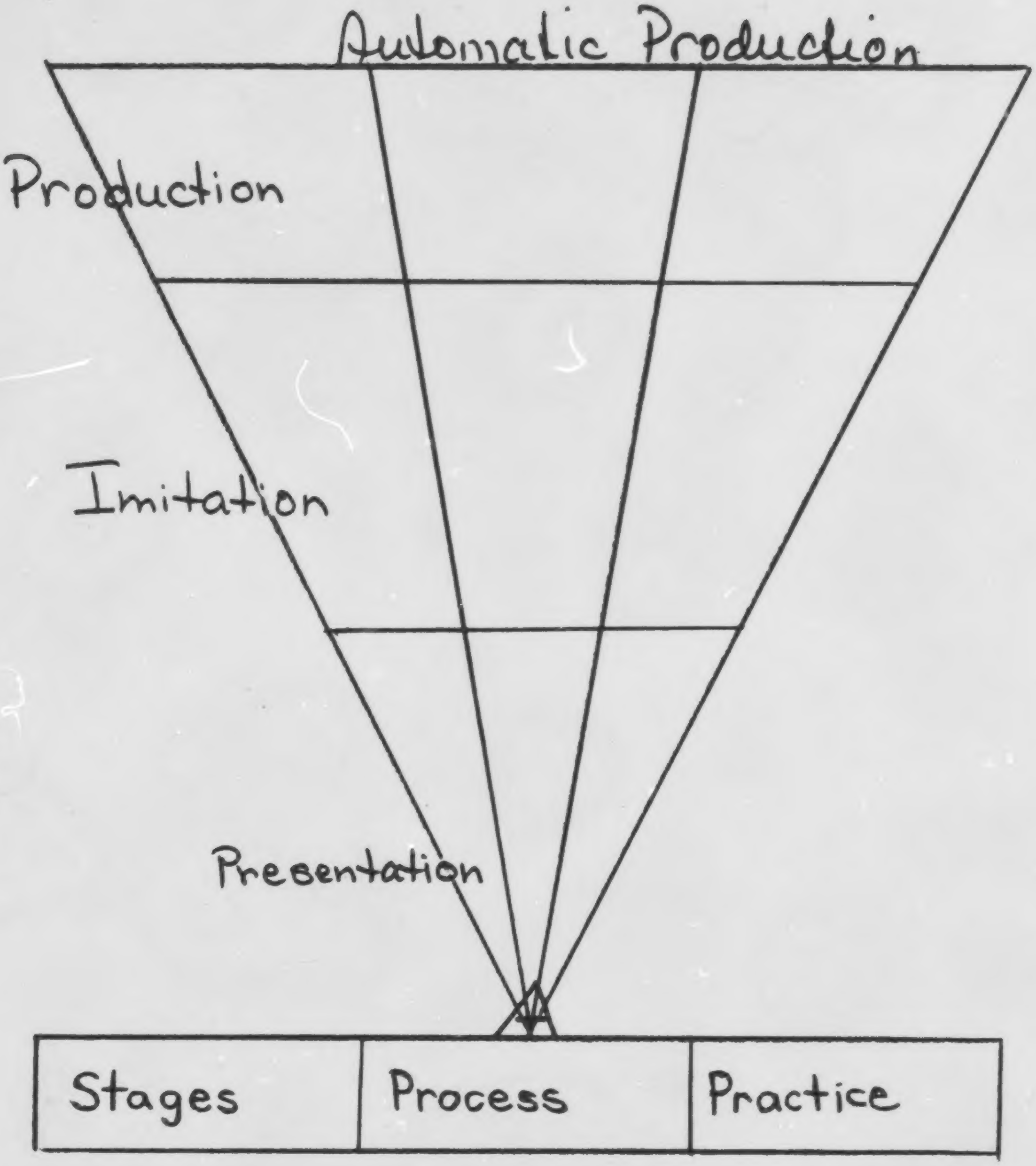

Fig. 1

which she has given. The pupil is expected at the IMITATION STAGE to be ready to imitate, or at least approximate, the skill the teacher (or parent) is working on.

C. PRODUCTION

At the PRODUCTION STAGE the pupil is able to produce the skill he has been working on at the teacher's request. The skill, however, cannot be considered to have been completely learned until it is automatically correct in the pupil's spontaneous speech. When he has advanced to this point he is at the AUTOMATIC PRODUCTION STAGE of the Speech Model.

The stages of learning are constant for all three faces of the Speech Model. Any modifications that are required will be described later. All speech learning passes through these stages whether it is taught specifically or learned through observation and imitation.

(2) PROCESS

The section labeled PROCESS refers to the learning processes that take place at each of the learning stages. The child goes through the same processes at each face of the model, no matter what the skill is that he is learning, or what face he is working on.

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Speech Model

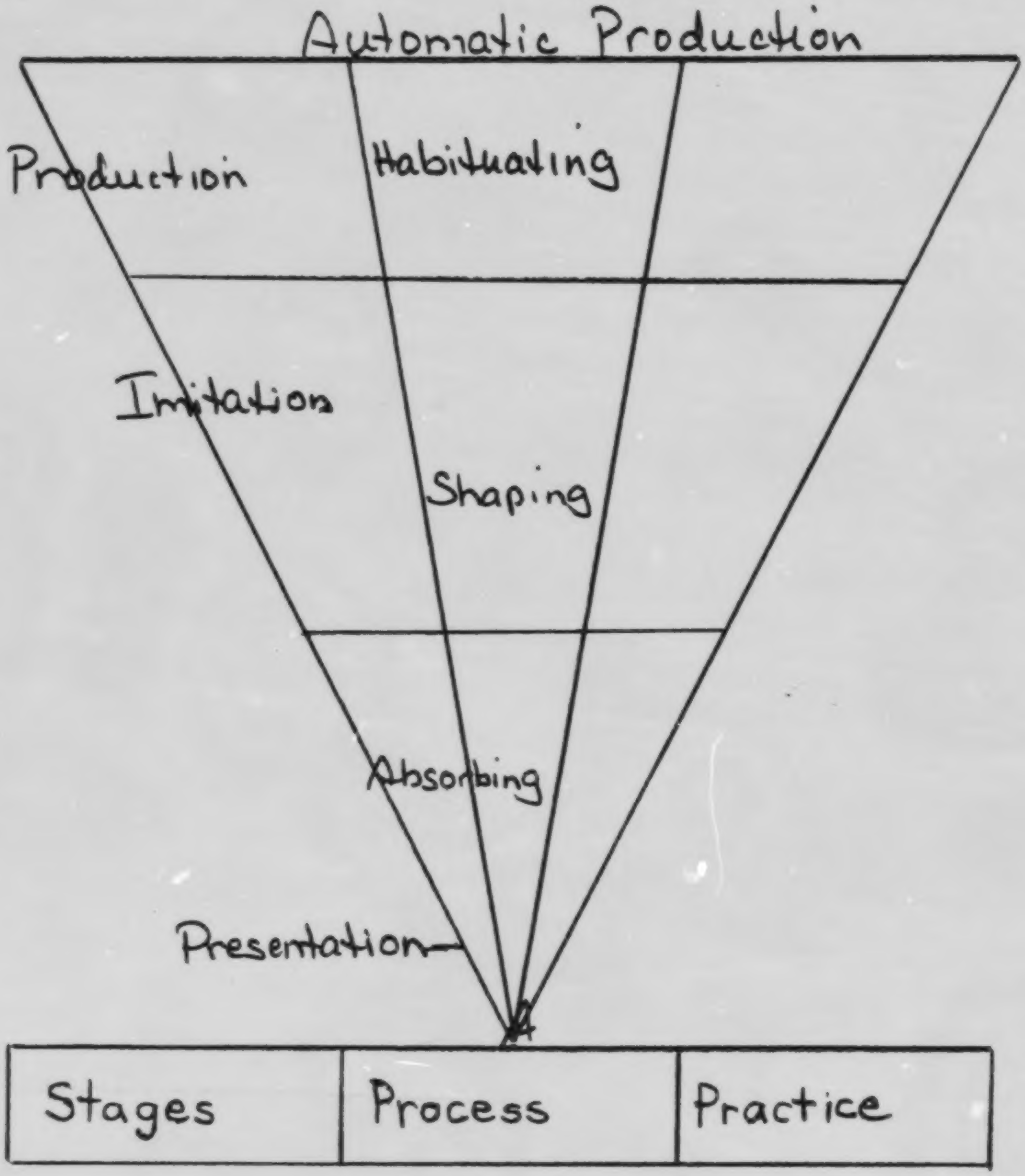

Fig. 2

A. ABSORBING

At the PRESENTATION STAGE the learning process is called ABSORBING. The child's only job is to be attentive as the teacher presents the skill to be learned. The child is expected to absorb the information that is being presented. A very beginning child, will spend a considerable amount of time with this kind of learning. A child with more speech experience may pass through this stage quickly.

B. SHAPING

At the IMITATION STAGE the process which the teacher uses is called SHAPING. Shaping is a procedure for improving speech skills. The teacher reinforces the pupil for successively more appropriate efforts. She helps him move through a series of approximations until correct performance is achieved.

Shaping is accomplished by using three different degrees of reinforcement. Any three graded verbal reinforcers will do. For example, if the child is working on the word "daddy" and the first imitation he gives is (a-i), we would reinforce him by saying, "That's a try." This is the lowest level of reinforcement. After several more imitations, he may give (n/ya-i). We would call this approximation 1. It is closer to the correct pronunciation than (a-i) was. The first few times this imitation is given, we would reinforce it with the second level of reinforcement, "Good." As approximation 1 becomes stabilized, we would go back to the first reinforcement, "That's a try," since we now want the child to move even closer to the correct pronunciation. Perhaps the next approximation he makes will be (ta-i). We would call this approximation 2 and would again use the reinforcer "Good." As the pupil moves through a series of approximations toward correct performance, we continue to SHAPE his speech using the heirarchy of reinforcers previously described. When the correct speech is finally reached, we would reinforce it with "Wonderful." This is a term that has to be used sparingly to maintain its effectiveness. Therefore, it is used for only the first few times the pupil is correct. From then on, the teacher reinforces the pupil using the second level of reinforcement, "Good."

To assure that these terms, "That's a try," "Good," and "Wonderful" (or any other three verbal reinforcers that seem natural for the teacher) will accomplish the job of shaping, the teacher should be sure that her facial expression and any other physical means of reinforcement she may use, such as a pat, all match. If the teacher verbalizes, "That's a try," she must be sure that her face and her pat indicate the same thing.

C. HABITUATION

At the Production Stage the learning process is called HABITUATION. That is, the pupil needs time to habituate his new speech skill. After the pupil has absorbed information, has had the skill shaped to correct performance, and has had practice to maintain that performance, he must HABITUATE it so that it becomes part of his spontaneous speech and can be produced automatically. The teacher should provide or see that opportunities are provided for the pupil to habituate the skill in all environments.

(3) PRACTICE

The third vertical section of the Speech Model is called PRACTICE. This refers to the type of practice that is going on at each of the three stages. In some sections more than one type of practice may occur.

In the Presentation Stage there is NO practice. We have already said that at this stage the child is merely absorbing the information that the teacher is presenting. He is not asked to participate in any type of practice.

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Please insert Figure 3 here or near here

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At the Imitation Stage the pupil is involved in two levels of practice. After he has made the correct imitation he needs practice to maintain his skill. At first he is making more errors than correct imitations. He is at the HIGH-ERROR LEVEL of practice. As he progresses with his practice, he becomes more right than wrong. He is at the LOW-ERROR LEVEL of practice. At this time he is giving the correct speech more often than the incorrect speech. He moves from HIGH-ERROR to LOW-ERROR LEVELS of practice.

Speech Model

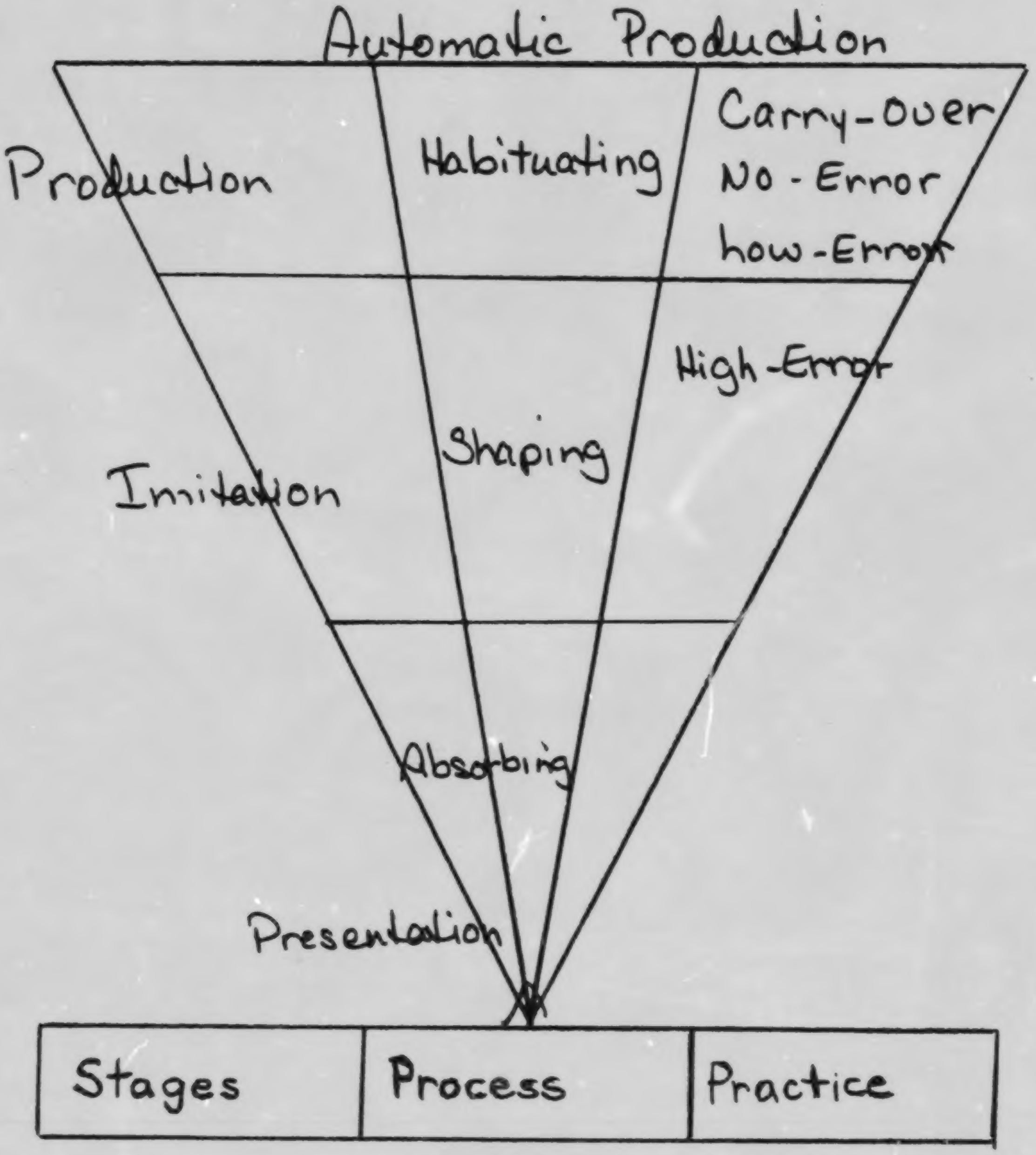

Fig 3

At the Production Stage the pupil is again involved in two types of practice. In the specific speech lesson, he is given practice at the NO-ERROR LEVEL of practice. The production stage by definition would require that the child be able to produce the skill correctly all the time or he would not be ready for this stage of learning. He should be given enough practice at this level to allow him to habituate his learning.

The second type of practice in the Production Stage is called CARRY-OVER practice, which refers to practice that takes place outside of the specific speech lesson. This is one of the more important areas of the Model, for until the child masters this section we cannot call the learning complete. For the learning to be complete, the pupil must be able to use the corrected speech skill all the time. Carry-Over practice gives him a chance to practice his skill in other places: home, lunch room, etc. He should also learn to use the new speech skill with people other than his speech teacher: parent, other pupils and adults. Learning is complete when without reminding, even by himself, the pupil uses the correct speech skill automatically. He then has reached the AUTOMATIC PRODUCTION STAGE.

So far we have described one face of the Speech Model. Each of the three faces represents a different type of learning. Face A is the initial learning of a speech skill. Face B represents generalization of the initial skill to all words that contain that skill, and Face C represents the generalization of the initial skill to other analagous skills.

The generalizations from a known to an unknown skill result in an economy of time required for mastery of speech skills.

At Face A, the learning of a new skill passes through all the learning stages; therefore, all the labels are used on Face A. In addition to learning to use the skill, let us say the consonant (s) in isolation, the pupil also learns to use the sound in four nuclei words. (We have chosen four to give the pupil some practice using the new skill in words without exhausting his interest.) These words are chosen by the teacher with the particular child in mind. The words would be chosen from his expressive language vocabulary with consideration given to frequency of use and various placements of the sound in words. Culmination of learning at Face A is the correct articulation of the sound (s) in isolation and in four nuclei words.

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Please insert Figure 4 here or near here

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Face B of the Speech Model is for generalization of the skill learned at Face A, in our example (s), to all words that contain that skill and are a part of the child's vocabulary. Work on Face B usually begins at the level of Carry-Over practice at the Production Stage. Since the child can produce the sound and use it in four words, it is fairly easy to generalize it to every word that comes up in his connected language. The child will habituate the skill through reminding by parents and teachers. The General Language-General Speech Pattern is used as the teaching tool. This is a simple system devoloped at John Tracy Clinic for evaluating and correcting language and speech in the general learning situation. Learning at Face B is complete when all words containing (s) are given correctly by the child automatically.

Speech Model

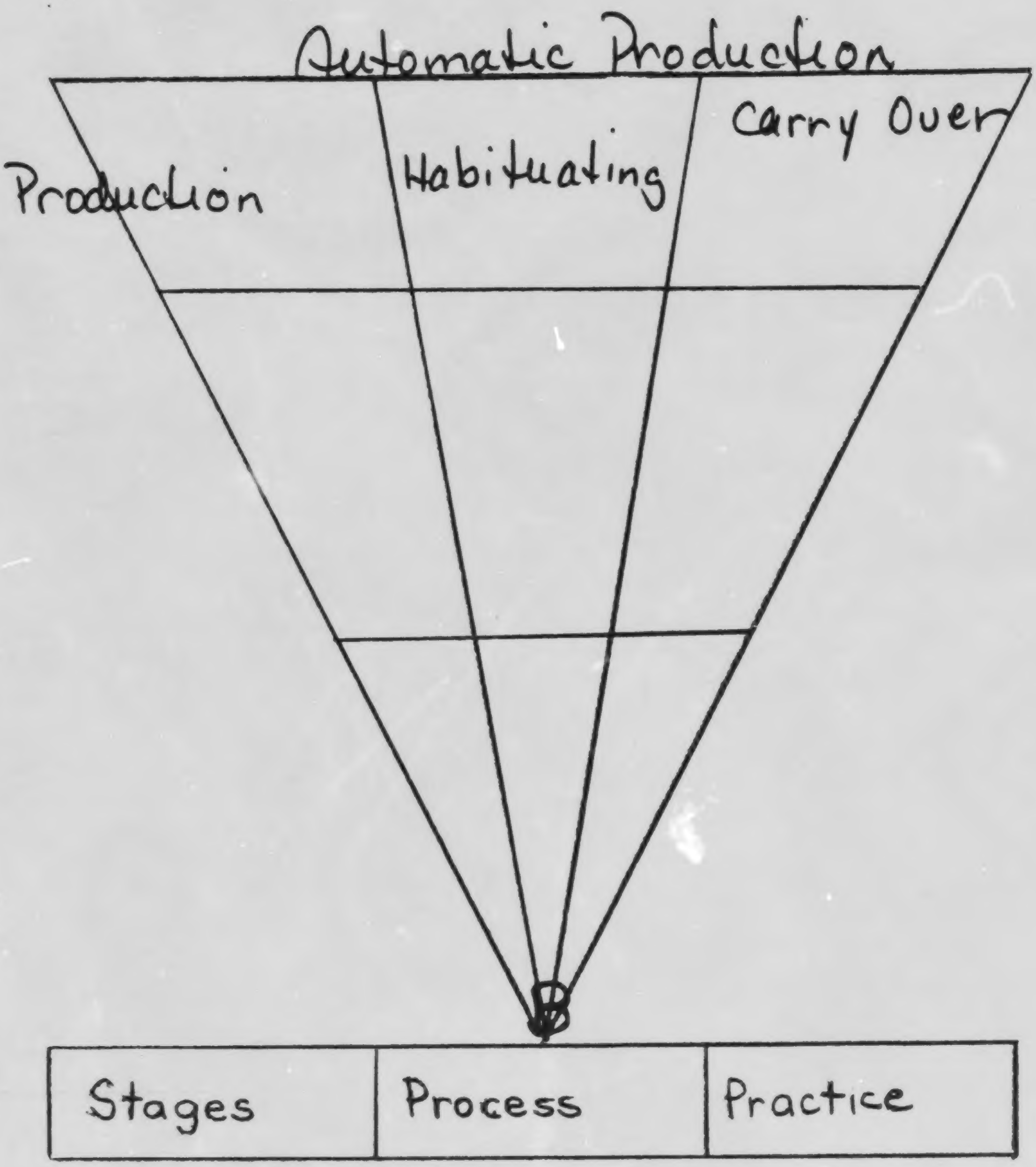

Fig. 4

Face C of the Speech Model is used to generalize the corrected skill learned at Face A to other analogous areas (see Figure 3) of speech. (To follow our example, the child who had begun the learning of (s) at Face A of the Speech Model would apply his skill with (s) to learning the analogous sound (z) at Face C.) Face C is usually shown with all the titles as Face A. Learning, however, moves much more rapidly through the stages as the child is applying his newly learned skills to another skill. Much of the learning on Face C takes place outside the specific speech lesson and is done using the General Language-General Speech Pattern. The culmination of learning at Face C is the AUTOMATIC PRODUCTION of the analogous skill in words as they arise.

The Speech Model is a guide that explains the progressions of speech learning which take place in specific lessons and in general learning situations. It was evolved from attempts to describe the process of teaching speech to deaf pupils.

REMEDIAL PRINCIPLES AND PRACTICES WITH THE HEARING IMPAIRED

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ACKNOWLEDGEMENT

The material presented is little more than a skeleton outline of the communication training program employed at John Tracy Clinic. The author is indebted to Charlotte Avery and Leona Takahashi for assistance in preparing the manuscript, but is solely responsible for any inaccuracies.

December, 1970

REMEDIAL PRINCIPLES AND PRACTICES WITH THE HEARING IMPAIRED

Be assured that the remediation of communication problems associated with severe hearing impairment is no mean task, and one not likely to be described comprehensively in even a series of books such as this. It involves mastery of the most important learning task that we ever face, the acquisition of language. It requires that the learning take place through the eyes rather than the ears and unfortunately the eyes are not particularly suited for the task because they have so many other functions to perform. Add to this the fact that we do not completely understand how language is acquired even by the normal hearing child, and you can begin to appreciate the magnitude of the task.

FOCUS OF CHAPTER

To even hope for a meaningful presentation one must select a small segment of the hearing impaired and describe some of the remediation principles and practices appropriate for that group. This chapter will deal with the prelingually deaf child. This is not to demean the problems of the older deaf child, the hard of hearing teen-ager, or the 75 year old presbycusic. It reflects the belief that language acquisition, when it must be accomplished largely through a substitute modality, is an educational problem deserving our primary attention.

"Prelingual" refers to the child who was born deaf or who became deaf before language and speech had developed through hearing. The majority of these children are congentially deaf because antibiotics and improved otologic and pediatric practices have reduced the number of children who are "deafened" by infection or disease. It is difficult to set an exact cutoff period to define "prelingual" but two years serves as a convenient landmark. If deafness occurs prior to the age of two, the child's education proceeds very much like that of a congenitally deaf child. If it occurs after two, there is apparently enough language and auditory memory so that the child may ultimately develop more normal language and speech than is generally possible for the congenitally deaf child.

The focus population was described as "deaf" to distinguish them from another large group of hearing impaired who are called "hard of hearing." Again, it is difficult to provide exact definitions to distinguish the two categories. The pure tone air-conduction audiogram, although helpful, does not provide a reliable distinction. There is some consensus (O'Neill 1964) that when the average pure tone loss of 500, 1000 and 2000 Hertz exceeds 80 dB (ASA) the individual is "deaf." Losses less severe than this are "hard of hearing." Yet in a language learning situation some "hard of hearing" children will behave as though they are "deaf" and some children with average losses greater than 80 dB will behave as though they had much more hearing. There are a variety of as yet imperfectly understood factors which cloud any attempt at a simple distinction between these two categories. For the purposes of this chapter, a working definition of the term "deaf" is, "one whose hearing impairment is so severe that he must acquire language primarily through vision." "Hard of hearing" would refer to the remaining hearing impaired who have enough residual hearing so that with amplification and special instruction they may be expected to acquire language through hearing. Note the definition says, "must acquire language primarily through vision" which emphasizes the prelingual period. By this definition a child with a severe hearing loss acquired at age 6 would be considered "deafened" but not "deaf."

It should be emphasized again that the choice of the deaf child as the focus for this chapter in no way implies that the hard of hearing child does not have serious communication problems. He generally does not adjust easily into the educational programs for either the hearing or the deaf. He may find the hearing class requires too much effort to keep-up with his peers, while in the deaf class he may be held back by the slower progress of that group. Generally, only the larger urban areas have enough hearing impaired children to provide special classes for just the hard of hearing. Because their loss is not so severe, and because their communication skills are so similar to hearing children in many ways, it is easy for both parents and teachers to set unreasonably high expectations for them.

The focus of this chapter is on children. The child with normal hearing develops most of his language and speech skills while he is a child. We believe that the deaf child should have that same opportunity and that any remediation program should begin at an early age. There is a considerable body of thought which suggests there are critical periods in a child's development when the acquisition of certain skills are much easier than at either an earlier or later date. Little evidence is available on critical periods for language development, but it is much easier for a young hearing child to acquire a second language and to speak it without a "foreign" accent than it is for an adult. We know that hearing children begin the acquisition of language at an early age and have made great progress by the time they enter school. It is remarkable that this important learning task is accomplished with little specific instruction. In the absence of any evidence to the contrary, it would appear reasonable to start the deaf child's language experience as soon as possible.

ORALISM

This presentation will deal with a form of communication for the deaf known as oralism which involves lipreading and speech as well as reading and writing. The manual method involves finger spelling and signing as well as reading and writing. Finger spelling is a visual communication system in which each letter of the alphabet is represented by a different position of the fingers. Signing is a set of gestures that stand for words, phrases, or ideas. There has probably been more energy spent arguing over the relative merits of oral versus manual communication than there has been over any other contrasting pairs of remediation principles. Oralism was selected for presentation here because it appears to be less restrictive than manual communication. The manualist is restricted to communicating with those who understand finger spelling or signs. This limits most of his face-to-face communication to that relatively small segment of our society who understand manual communication. The deaf oralist is not without face-to-face communication problems, for his speech will never be as clear as that of the normal hearing person, but he is not restricted to communication with a predetermined group.

ROLE OF PARENTS

Many of the practices to be described are ones that parents can and should carry out. A deaf child must substitute his eyes for his ears to acquire language. This substitution is difficult because the eye is directional whereas the ear is not. The hearing child can hear someone even if he is not looking at him; he can hear people behind him or in the next room; he can acquire language through listening whether he can see the speaker or not. If language is to be acquired through the eyes, it requires a focusing of the visual field on the source of information. The deaf child must look at the speaker or there will be no communication. Much of the time his eyes are busy with other tasks, like watching where he is walking or guiding the spoon from his dish to his mouth. His eyes also tend to follow anything that moves like a bird, a puppy or a waving hand. To make any visual language experiences meaningful for the child requires having someone with him to take advantage of all possible opportunities. The only persons who are around the child enough to have any significant impact on the acquisition of language are his parents. To fully appreciate this point, think of how difficult it would have been for you to have learned English if your only instruction came during school hours.

Some educators do not believe that parents should be involved in their child's education. They say that asking the parents to take on additional tasks may put them under too much pressure, and that if they are tense and nervous when they try to teach, the learning experience is likely to be unpleasant for the child and make him less receptive to the teacher's efforts. This argument ignores the fact that parents are teachers, whether they realize it or not. All children learn a great deal from their parents. Our goal is to help parents develop skill in using every possible opportunity for language development. If we do make them tense and nervous, then we are not doing our job properly. We must be certain that our instructions are understood and that our assignments are not unreasonable.

Involving parents requires special skills. It requires teaching adults as well as children; it requires explanation and justification of your educational philosophy and program; it requires preparation of lessons and assignments which are understandable and meaningful for the parents and, most important, it requires convincing the parents of the important role they can play in their child's education. In return for this extra effort the teacher has a highly motivated helper who can provide the many repetitions of visual language experience after school, on week ends when the teacher is not available.

RECEPTIVE LANGUAGE

The first step in remediation for the young deaf child is developing a receptive language foundation. A distinction should be made between Receptive and Expressive Language. We understand a great many more words than we use in ordinary conversation. In other words, our receptive vocabularies are larger than our expressive vocabularies.

For hearing children, receptive language development appears to be a prerequisite for expressive language and speech. During this receptive period he is not particularly responsive to language. He just listens. His later behavior shows this was not a completely passive period and that there must have been some active cerebral organization going on which prepared the foundation for his later rapid development of expressive language and speech.

A similar receptive period is necessary for the deaf child. He needs a receptive language period when he is exposed over and over again to the visual stimuli of movement on the lips associated with everything that is going on around him. No response should be expected.

This is sometimes difficult for parents to understand because one of their first questions when they learn their child is deaf is: "How soon will my child learn to talk?" They must be helped to realize that the first concern is not with speech but with language, which is the understanding that must precede speech. You can teach a parrot to speak, but he doesn't know what he is talking about. The deaf child has to learn to share our language system so that he will have something to say before we are concerned with speech.

General Lipreading

The development of receptive language begins with General Lipreading. This is perhaps best characterized by the now famous dictum of Mrs. Spencer Tracy, founder of John Tracy Clinic, who says: "Talk, talk, talk to your child." (Tracy, 1965) Give him a desire to talk, something to talk about, and someone to talk to." (Tracy, 1965) It means developing skill in recognizing and taking advantage of his interests to provide him with receptive language experience; it means showing an interest in what he is interested and talking to him in short simple sentences about that interest; and it means following some practices that make it easier for him to see and ultimately to understand what is being said.

Use complete simple sentences or "carrier phrases" but not the same ones repeatedly. Emphasize the key word, usually at the end of the phrase. Use declarative sentences rather than questions because the deaf child will probably not be aware of the rising inflection pattern characteristic of the question, and questions usually require a verbal response that the child cannot produce at this stage.

There are some physical factors that will make general lipreading easier such as arranging the situation so you are talking with the light shining on your face, rather than in the child's eyes; and getting down on the child's level, so that he doesn't have to be continually stretching his neck to look up to your face.

There are other physical factors such as not talking with a cigarette in your mouth or with anything interfering with a clear view of the face. It is hard to watch the lips if there is other movement competing for attention. Waving your hands or bobbing your head while you are talking make it extremely difficult to concentrate on the lips. Sometimes it is helpful to hold the object you are talking about close to your mouth. If so, move it, stop, talk, and then move it away.

There are other skills to be developed in getting a child to look at you and to maintain eye contact. Some parents tell us that their children never seem to look at them, but experience shows there are many times when a child will look. These are primarily when he wants something from you, whether it is help, approval, permission or praise. The skill is to be able to use those initially fleeting glances in such a way that the child learns that communication takes place when he is watching your face--then the looks will be more purposive and for longer periods of time.

Some parents ask, "Why should I talk to him, he can't hear me?" Don't expect the young deaf child to understand all or even a fraction of what you say at first. Gradually, with the hundreds and hundreds of pairings of the visual signal from the lips associated with the object or action that he is interested in, he will begin to develop Receptive Language. He also learns that people do talk, that they communicate by moving their lips.

General Lipreading should go on during the child's entire waking hours. The hearing child acquires language by "hearing" during all his waking hours; we must try to match that as closely as possible by taking advantage of every opportunity for meaningful visual language input.

Specific Lipreading

At the same time we are talking to the deaf child about anything and everything that interests him, one word should be selected for specific practice. It is not known how many times a child must be exposed to a word before he learns it, but whatever the number, he will reach it much sooner if there is a focus on one word for concentrated specific lipreading practice.

The word chosen for specific practice should represent something in which the child has shown an interest. It should generally be a noun representing something that is readily available and encountered frequently. The word should be easy to lipread and not easily confused with another word that might sound different but look the same on the lips. If you are in doubt, try the word you have selected in a mirror to see if it is easily visible and not likely to be confused with another word. "Cookie," "flower," and "water" are examples of words that would be suitable if the child was interested in them.

After selecting a word for Specific Lipreading practice, make plans for a variety of different play activities that call for repetitions of the word, yet still hold the child's interest. For example, following is a description of a planned activity for the word "water," prepared by parents of John Tracy Clinic.

Water - Planned Activity
"Washing Up"

Materials: You will need a shallow pan with a small amount of water in it, some facial tissues (cut in half) or toilet paper and a snack that is guaranteed to leave your child's face and hands messy. This could be a jam sandwich, peanut butter and crackers, slices of orange, etc. You'll also want a chair or stool for your child to sit on and some newspaper to go under the pan.

Procedure: Assemble the washing-up materials so that you are ready to wash up your child as soon as he finishes his snack. If this could be done close to a mirror, or you could use a hand mirror at intervals, it would help maintain your child's interest.

What to do	What to say
After the snack, kneel down to your child, hold his messy hands, palms up between you. Look at them. Hold still. When he looks to your face, say:	
	They're dirty.
Walk together to the area you have selected. Hold a mirror so that he can see his dirty face. Remove the mirror. Hold still. When he looks to your face, say:	
	It's dirty.
Seat your child, get a bit of tissue, hold it near your mouth. Stop. When he looks to your face, say:	
	I'll get some water.

Dunk the tissue in the water. Spend a long enough time at it so that your child sees the action of getting the tissue wet. While he is looking at the water in the pan, dip your hand into the water and dribble some of it off your fingers. Hold still. When your child looks to your face, say:	
	That's water.
Take the wet tissue and sponge off part of one of his cheeks. Show him the dirty tissue. When he looks to your face, say:	
	Your face is dirty.
What to do	What to say
Hold another tissue near your face and when your child looks to your face, say:	
	I'll get more water.
Dip it into the water so that it is quite wet. Hold it between you and your child, yet out of his reach. Let it drip water onto your second hand. Stop all motion and when he looks to your face, say:	
	That's water.
If he continues to look to your face, say again:	
	That's water.
Continue to sponge off the rest of the cheek area. Make it a pleasant activity. Have your child look into the mirror. Place your index finger on his clean cheek. When he looks to your face, say:	
	It's clean.
Go back to the washing. This time take one of his hands and look at it as already described. Stop. When he looks to your face, say:	
	We'll put it in the water.
Place his hand in the pan and hold it there for a moment. Stop. When he looks to your face, say:	
	It's in the water.

Rub his hand to get off the dirt. Lift it between you and let the water drip off to your own hand. Wait. When he looks to your face, say:	
	Look at the water.
Wipe his hand dry with tissue. Hold it up again and look at it. Wait. When he looks to your face, say:	
	The water's gone.
What to do	What to say
Drop his hand. Get another piece of tissue; hold it beside your face. Stop. When he looks, place his clean hand on your face for touch and say:	
	I'll get some water.
Drop his hand. Dip the tissue into the water, let it drip on your child's hand. Hold his hand still and the tissue away from his hand. When he looks to your face, say:	
	That's water.
Sponge off the rest of his face and have him look into the mirror to see his clean face. When he looks to your face, say:	
	It's clean.
Take his dirty hand and hold it between you, looking at it. When he looks to your face, take his other hand for touch and say:	
	I'll put it in the water.
Take the clean hand off your face and place the dirty hand in the water. Hold the hand there, still for a moment. When he looks to your face, say:	
	It's in the water.
If he looks back to your face, say	
	It's in the water.
Rub the dirt off his hand. Then take his hand out of the water and let it drip some onto your hand. Be still. When he looks to your face, say:	
	See the water.

Dry his hand and your hand and then hold his hand still. When he looks to your face, say:	
	The water's gone.
What to do Drop his hand. If your child remains interested, have him help you take the pan of water to your sink. Hold still just before you empty the pan and say:	What to say
	Throw out the water.
Throw it out. Show the remaining water in the pan. Stop. When your child looks to your face, say:	
	I'll wipe out the water.
Wipe it out. Admire your clean child.	

Variations:
Working from a water spigot instead of a pan of water.
Use a wash cloth and towel instead of tissues.

Such an activity provides many opportunities for the presentation of "water" in a meaningful fashion. Similar activities could be planned for watering the lawn, washing dishes or the car, or taking a bath.

The teacher must develop skill in planning a variety of interesting activities and in taking advantage of the many unplanned opportunities that occur naturally in the course of a day to increase the opportunities for meaningful repetitions of the specific lipreading word.

Remember that general language practice is proceeding concurrently with the specific practice. This is not an either-or situation--both must be carried on continuously.

Comprehension Checks

There is no agreement on how many repetitions it would take to learn a specific lipreading word, but after a great variety of planned and unplanned activities on the same word, there comes a time when we must decide whether the child "knows" the word. "Knows" is misleading because it implies that the deaf child shares the same full and elaborated meanings attached to a particular linguistic symbol as a normal hearing person. This is clearly not the case. At this stage we can only check to see if the child has some simple comprehension of the linguistic concept.

Checking comprehension is more complicated than it may sound because you cannot just ask the deaf child to define the word, and you cannot even accept his repeating it after you as evidence that he has any comprehension. In the ideal situation you try to remove all cues of time, place, and context and see if the child can give some behavioral evidence that he understands the specific lipreading word. If the first word was airplane, you would try to ask the child to get his airplane at a different time than when you usually had your specific practice. You might try it in a different room or out of doors, and you might try it with different toy airplanes to see if the child can generalize from one airplane to a broader class. It is not evidence of comprehension if at 11:55 the teacher says, "Wash for lunch," and the child goes to the sink to wash his hands. He has probably done the same thing every day at that same time, and would continue to do so at 11:55 no matter what the teacher said.

Try to avoid making the comprehension checks into an examination. If the child doesn't understand, consider it another receptive repetition and show him what you were talking about. If he responds correctly, do something in response to his action so that there appears to be some reason for your asking. Try to get several comprehension checks on the first word before going on to the second Specific Lipreading word.

Selection of the second Specific Lipreading word should follow the same rules suggested earlier, but the second word should be distinctively different from the first on as many visual dimensions as possible.

EXPRESSIVE LANGUAGE

The next step, which should be carried on concurrently with both General and Specific Lipreading activities, is the development of Expressive Language. As pointed out earlier, there is a difference between an individual's receptive and expressive vocabulary. The same is true for the young deaf child. The goals in Expressive Language training are to facilitate the child's communication with others, and to help him develop an appreciation of the value of language, as he sees its influence on his environment. This is still not the speech which was the parents' first concern. In Speech the emphasis is on how intelligibly the language is produced. In Expressive Language the primary concern is still on language.

Expressive Language training follows many of the same procedures described for Receptive Language. One major difference is that the first expressive word should be an action verb rather than a noun. Verbs like "push," "pull," "stop," "open," and "up" are all good because they cause something to happen in the environment, and in so doing help the young child begin to appreciate the power of language.

There are four stages in the development of an Expressive Language word. The first stage is called Receptive, for it is necessary to be certain that the child understands the word before we are concerned about expression. The practices would be very much the same as those for general and specific training of Receptive Language. The general practice has the advantage that it frequently permits generalization of the word in a wide variety of real life experiences, while the specific practice accelerates the many repetitions required for mastery. As the word we are working on is an action word, it is frequently possible to have the child perform the action after the adult presents the word. This makes the child aware of the talker - actor roles in language. This should be continued until Comprehension Checks assure you that the child understands the word.

The second stage is called Imitation and requires the use of a second adult. The goal is to give the child practice in meaningful imitation. The child first watches what one adult says to the other, and observes the second adult carry out the appropriate action. For example, in an activity on the word "push" the first adult may place a toy car on a track and say to the other adult, "Give it a push," whereupon the second adult responds by pushing the car. The child is then encouraged to watch the first adult and to repeat his message to the second adult who would again carry out the appropriate action. The child is merely imitating the first adult, but it does show the child that an expressive language on his part can produce the same results as those produced by adults.

The Reminding Stage is third. The practices are much the same as in the Imitative Stage except that the goal is to get the child to initiate the language himself. It can be a repetition of an activity from the Imitation Stage except that there is no second adult to provide the Imitative Model. To be successful in the Reminding Stage, you must learn to pause with an "expactant look" to give the child an opportunity to take the initiative. If he doesn't respond after a few seconds, treat it as another receptive experience. Another technique is to occasionally use vibratory cues by placing the child's hand on his own face as a reminder. The use of touch is described in more detail in the section on Auditory Training. Touch should only be used occasionally in the Reminding stage or it will soon become ineffective.

The Spontaneous stage is the final level for an expressive word. This occurs when the child can consistently and spontaneously use the word in an appropriate situation which assures you that he comprehends its meaning. The main effort thereafter is to react quickly to reinforce the child's experience with the power of language. The other consideration is to hold him to thatlevel of performance in future situations. Once the child has demonstrated that he can use the word spontaneously and meaningfully, he should be expected to use it spontaneously in the future. After a number of words have been carried theough to the Spontaneous stage it may be appropriate to begin with some of the words from the child's receptive vocabulary as his needs and interests dictate.

Soon the child may be at different stages with different words. He may have one or more words in each of the transition stages that have been mentioned and a number in the Spontaneous stage. You must keep track of this progress so practice can be carried out with an appropriate level of expectancy. It is just as wrong to respond appropriately to a child's expressive language effort at the Remindinglevel when he has already demonstrated mastery at the Spontaneous level as it is to expect a child to respond at the Imitative level before he has mastered the word at the Receptive level.

AUDITORY TRAINING

Although the deaf child was defined as "one who must rely on vision for his major avenue of communication," this does not mean that he is totally deaf. Most deaf children have some residual hearing, generally in the low frequencies. This remaining sense of hearing can be of great assistance in the development of language. To utilize this residual hearing requires both good quality amplification and appropriate auditory training.

The goal of auditory training is to develop good listening habits. It is easy for the deaf child to fail to do so when the speech he hears is not complete enough to be meaningful. Imagine how difficult it would be for you to listen attentatively to someone speaking in a language you did not understand. To develop good listening habits it is necessary to introduce amplified sounds in such a way that they will be meaningful. Since loudness decreases rapidly with the distance between the sound source and the ear, the best amplification occurs when you speak in a normal voice close to the child's ear. This is not feasible for any great amount of time; so amplification in the form of an auditory training unit or an individual hearing aid is indicated.

The use of hearing aids sometimes causes misunderstanding from those unfamiliar with deafness who assume that a hearing aid can somehow "cure" the young deaf child, as it appears to do for the adult who has lost his hearing. A hearing aid and auditory training cannot improve the physiological capacity to hear, it only improves the child's awareness of and attention to sound. It is probably fair to say that the hearing aid is both more and less than we expect. For even the deafest child, amplification can serve as a warning device and can put him in closer touch with the world around him, giving him some idea of which things make sounds and which do not. Amplification may also provide some sense of the rhythm patterns of speech which contributes so much to intelligibility. All of these, while not sufficient for the development of language and speech, are still of great benefit to the hearing impaired child. On the other hand, the hearing aid does not reproduce sound for the deaf person with any thing like the quality or clarity of normal hearing. For the deaf child with residual

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hearing in only the lower frequencies, no amount of amplification will deliver intelligible speech. His hearing loss acts as a filter passing only the low frequencies which contain relatively little speech information.

As with all the remediation practices described here, the introduction of amplified sound should be done in such a way that it will interest the child and engage and hold his attention. The activities selected must be carefully tailored to the individual child's residual hearing, auditory discrimination ability and experience with auditory training. To assist in selecting appropriate activities, the staff of John Tracy Clinic have prepared an auditory training manual, "Play it by Ear" (Lowell and Stoner, 1960). This manual describes a series of simple auditory training activities suitable for the young deaf child. It is organized around common sounds to which the child is frequently exposed. There are exercises dealing with human, animal, and work sounds and noises; exercises dealing with music including pitch, intensity, duration and rhythm; and exercises dealing separately with vowels, consonants, pitch, intensity, duration, words, phrases, and stories. The final sections deal with distance and direction. Each exercise states an objective, the material needed for the activity, instructions on how to play the game, and variations to maintain the child's interest and to increase the difficulty of the auditory discrimination. An example of one of the activities follows.

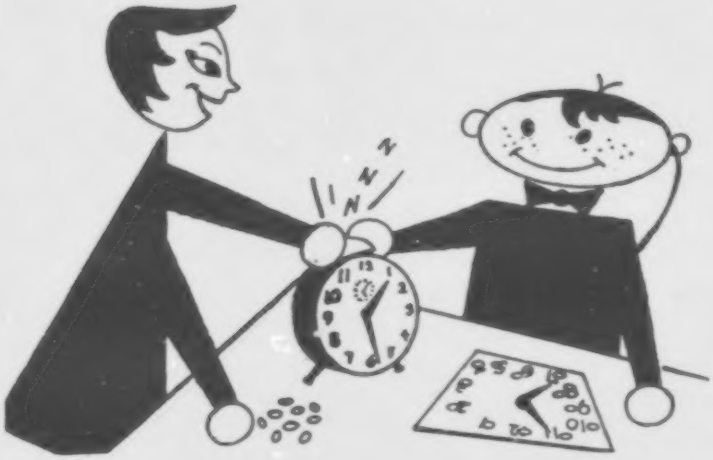
(NOTE: See pages 18-a, b and c.)

The auditory training exercise illustrated the use of touch and vision as a part of the game. This is what is referred to as the multi-sensory approach which takes advantage of all the cues available to the child.

ACTIVITY NO. 1

"WAKE UP!"

THE PURPOSE OF THIS ACTIVITY: To help the child discriminate between the "on" and "off" of sound, and furthermore, to make him more aware of the sounds around him.



MATERIALS NEEDED

An alarm clock with a fairly loud alarm.

A piece of cardboard cut in the shape of the clock, with the numbers written on it.

Some cereal.

HOW TO PLAY

You and the child sit facing each other. Tell him that you are both going to listen to the clock. Show him the clock and compare it to the cardboard one. Place pieces of the cereal on about six consecutive numbers on the cardboard clock.

Now place the child's fingertips on the alarm clock and tell him that you are both going to listen. Turn on the alarm and say to the child "It's on. I hear it." (Point to your ear.) Then take a piece of cereal and turn off the alarm. This is all done very quickly. Point to the next piece of cereal to be taken, telling the child that it is for him but that he must listen. Once more, place the child's fingertips on the alarm clock. Tell the child "It's off. I don't hear anything." (Point to your ear, shake your head to indicate "No"). Then turn on the alarm, go through the same procedure as described above, helping the child to make the response by taking the cereal when he hears the sound. He may then eat it.

Proceed in this manner until the child can respond accurately without assistance.

After the child can respond accurately with the help of touch, have him move his fingers away from the clock. If he cannot respond without feeling the clock, touch the table with the clock so that he cannot see you but can feel the vibration. You can also give the sound behind the child. If assistance is needed, you can gently touch his arm, the chair he is sitting on, or the floor, with the alarm clock.

If the child has enough hearing to do this activity without the help of touch, it is, of course, not necessary to have him touch the clock when playing this game.

Language expectancy will depend upon the expressive language level of the child.

VARIATIONS

A. *To Maintain Interest*

1. Use marshmallows, raisins, etc., on the clock face numbers, or use any of the standard responses.
2. Place marbles on the clock face numbers and let the child put a marble into a container as his response.

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3. Turn the cardboard clock face down and let the child turn it over as his response.
4. Let the child hold the cardboard clock under the table and bring it up as his response.
5. Let the child move one of the clock's* hands an hour forward as his response.
6. Play the "fishing* game," letting the child pick up small pictures of clocks.
7. Let the child put pictures on a flannel* board.
8. Make a book*. Let the child tape* a picture of a clock into the book as his response.
9. Let the child drop pictures in a slot cut in a box resembling a clock. (Any square box will do. Stand it on end and draw a clock's face on the bottom.)
10. Make an Indian headband* with pictures of clocks.
11. You might use a book made either by you or by the child, and let the child turn the pages of the book and find pictures of different clocks as his response.
12. The child can pretend to be asleep and then pop up as his response.
13. If the child has a doll, he can pretend that the doll is asleep and let it make the same response. A hand puppet* may be used in the same way.
14. Depending upon the child's language, you might work further on the association of an alarm clock with waking up by having the child tell you (or tell a doll) to "Wake up! It's time to get up!" etc. You might use a doll's bed and have the child tell the doll to get up and take the doll out of bed.
15. You and the child can take turns in ringing the alarm. When it is the child's turn to do so, you must then make the response.

B. *To Increase the Difficulty of Auditory Discrimination*

Move the alarm clock further away from the child.

Children with normal hearing utilize all their senses in learning and we believe the deaf child should have the same opportunities.

For touch we use certain set hand positions to provide additional sensory information. For Receptive Language when face to face the child places his hand directly across onto the adult's cheek without crossing the adult's face. Half of the adult's chin is cupped in the child's hand, the little finger along the jaw line and the rest of his hand on the cheek. If child and adult are side by side facing into a mirror (which enables the child to see his own lips as well as the adult's), the child places his near hand on the far side of the adult's face in the same position described above. For Expressive Language when face to face or side by side the child's hand position is the same as above but is then moved back to his own face in the same manner to encourage his expressive efforts and to enable him to monitor his own efforts as well as the adult's. Some children are reluctant to use touch and they should not be pressured. For any child it should be used sparingly. Initially you may have to give the child assistance in getting his hand in the right position, but your physical intervention should be minimized as soon as possible.

The multi-sensory approach calls for developing the use of Touch, Vision, and Audition (TVA). Generally all three will be used together but occasionally each will be singled out for specific practice so that the child does not develop the habit of ignoring one sense modality. This is called Interweaving, and can be incorporated into general or specific lipreading activities. It may start with using only one sense, i.e., Touch alone, by covering the mouth with a piece of cardboard and turning off the hearing aid or auditory training unit; Vision alone, by turning off the amplification and not using touch; or Audition alone by covering the mouth and not using touch. This can be used in a purely receptive mode by providing all three senses the first time, then reducing it to one, and then repeating with all three. It may also be used in a discrimination situation where only one modality is used for the initial presentation, a response is required and then all three senses are used for confirmation of the correct response. Depending on the particular child, it may be necessary to add two modalities if he cannot initially function with one. Varying the modalities combined will give you some appreciation of the contribution of each of the senses, and some indication of where additional practice may be indicated. One word of caution, interweaving may be difficult for the child and so should be used sparingly.

There is some disagreement about how much benefit can be expected from Auditory Training. As indicated earlier, it would be unnatural for a child to attend to his residual hearing if it did not convey enough information to be valuable. Auditory training can help the deaf child use his residual hearing in conjunction with vision and touch, and when an effort is made to associate meaning with the sounds he is able to perceive. The disagreement arises over how much benefit may be expected from a primary emphasis on amplification. The issue is obsured by the low predictive ability of our present hearing tests, the fact that the deaf child may have other neurological involvements that influence his utilization of auditory information, and the impossibility of determining retroactively what might have happened to a particular child if a different educational program had been employed. Much work remains to be done to clarify this controversy.

ADVANCE LANGUAGE

With continued practice the child will begin to put the simple words together in 2 and 3-word combinations. These combinations may not follow the exact word order of English and there will be many omissions, particularly of function words, but they do represent an approximation of normal language. We know there is a great deal more to language than the vocabulary development we have described. There are countless rules or descriptions of the form-classes, constructions, and grammatical processes found in the language. The hearing child acquires this knowledge of language with little formal instruction. By merely being exposed to spoken language over and over, he begins to "know" when a sentence is correct. When it is not, he probably cannot tell you what is wrong but he knows that it sounds "funny." He also begins to incorporate this knowledge into his vocal productions. Linguists tell us that for hearing children, "Grammatical speech does not begin before one and one-half years of age; yet, as far as we can tell, acquisition is virtually complete by three and one-half or four years." (McNeill, 1966)

Because he is not exposed to language in the same way as the hearing child, the deaf child must acquire these complex rules of grammar in an artificial and less satisfactory manner. A common way to teaching grammar has been with the Fitzgerald Key. The Key was introduced by a teacher of the deaf (Fitzgerald, 1926) as a set of guidelines for sentence development. She felt that correct sentences could aid the deaf child with "straight thinking" and "straight language." The Key is found in many classrooms written at the top of the blackboard:

WHAT WHO	VERB	WHOM WHAT	WHERE	WHEN

By organizing his sentences according to the Key, the deaf child had some assistance in ordering his combinations of words to produce a correct sentence. When skillfully employed, the Key could be expanded to handle more complex sentences and was undoubtedly a useful tool. Some criticism of the Key was attributable to misuse (Di Carlo, 1964), but at best it had limitations. Linguistic studies have suggested (Tervoort, 1967) that teaching by the Key results in an over-simplified and formalized structure which may be used in classroom situations but is not carried over to informal peer group communication.

An alternative approach which gets away from the formal structure of the Key is known as the "Natural Method" (Groht, 1958) and is used in many schools. It emphasizes use of the normal, natural flow of language for practice with deaf children.

The most recent innovation has been the attempt to apply transformational generative grammar (Chomsky, 1965, Roberts, 1962) to language instruction for school age deaf children. Although the advantage of this new approach has not yet been unequivocally demonstrated for deaf children, the complexity of the language acquisition process and its importance for the deaf child justify any effort to explore new methods.

SPEECH

Speech is by far the most difficult of all the skills associated with remediation of the hearing impaired. It is a complex motor skill, based on an understanding of language, which must be reproduced with sufficient similarity to a "normal" speech model which the deaf child can never hear so that it will be intelligible. The approach used at John Tracy Clinic is both synthetic and analytic but emphasizes the synthetic. The child is first encouraged to imitate whole words and phrases and then given practice on the elements of speech so that they can be used in improving or correcting the whole (Haycock, 1964). It has been demonstrated (Hudgins, 1942) that intelligibility is not merely a function of precision of articulation, but is influenced by breath control, rhythm, and stress. Training on these essentials of good speech can begin at an early age with exercises on pitch (high or low), loudness (loud or soft) and duration (long or short). Young children can also learn to distinguish between voiced, unvoiced, and nasal sounds and to associate them with the colors red, blue and brown to assist in later practice. With motor skills developing in these areas, it is possible by selective reinforcement to shape the child's expressive language vocabulary in the direction of more intelligible speech.

The details of speech teaching are beyond the scope of this chapter, but have been described in greater detail in a series of 42 Speech Training films produced by John Tracy Clinic, which are available on loan from Captioned Films and Media Services of the Bureau of Education for the Handicapped, Office of Education, Department of Health, Education, and Welfare, Washington, D. C.

The films are designed to be used in teacher training programs. Accompanying them in a series of 22 audio tapes and four student workbooks designed to help the student teacher develop skills in phonetically transcribing both normal and deaf speech. There are several orthographies in use in schools and teacher training programs. A survey (Avery, 1967) suggested the Northampton and Thorndike spellings are most frequently used with the Initial Teaching Alphabet (ITA) and the International Phonetic Alphabet (IPA) receiving considerable attention. The audio tapes and student workbooks can be used with any system. The presentation of deaf speech provides an opportunity for developing skill in understanding what is being said, recognizing the errors, and deciding what remedial action is called for.

GeneralLanguage, General Speech Pattern

As the deaf child begins to acquire both language and speech, we should expect that his communication skill would increase rapidly. It does, but he still faces a problem that can interfere with the development of positive attitudes about oral communication.

Consider this situation. The deaf child's language is still imperfect and his speech is not always intelligible, but he wants to ask you something. He tries, and you frown in return. What can he interpret from that frown? Is it that you are puzzled because you don't know the answer to his question? Was his speech unintelligible? Was his language so mixed up that you can not follow his thinking? What kind of attitude toward communication would you develop if almost every time you spoke the other person signaled puzzlement, but didn't let you know why? This is not a far fetched example, it happens more times than we like to recognize, and it undoubtedly has an adverse effect on the development of oral language skill.

To attempt to overcome this problem, the General Language, General Speech Pattern (GLGSP) is designed to put some structure into the communicative interaction with the deaf child that will overcome the uncertainty in the situation just described. It provides a simple framework around which the teacher and the parent can organize their communication efforts.

The GLGSP calls for an evaluation of the deaf child's communication effort at one of three levels: (1) understanding, did you understand what he is talking about, (2) Language, was the language appropriate for his particular level of development, and (3) speech, was his speech as good as could have been expected. The emphasis is on evaluation. We must determine the child's level of mastery and then always evaluate whether he is performing up to that level. This is not simple, for as indicated earlier, a deaf child will be at different levels with different material in both language and speech. To fail to hold him to a reasonable level of performance is doing the child a disservice.

Evaluation begins at the lowest level. If you do not understand the child, all other efforts must wait until you do. Get him to try again, to show you, to draw a picture, or anything else that is necessary. When you do understand, be sure to let him know you do and then respond appropriately to his attempt.

If you understand him, go on to evaluation of his language. If it is not up to what you should expect, you may want to give him some assistance. It would then be appropriate to say, "I understand you, but let me help you with your language." This clears the air because it tells him the message was understood, and that what follows will be some assistance in the language area. After helping him, by providing a correct pattern, or whatever else is required, and holding him to an improved attempt, be sure to respond appropriately.

If you understand him, and the language is appropriate, go on to evaluate his speech. If there are speech errors you can help him with, it would be appropriate to say, "Your language is good, but let me help you with your speech." Again he has had some positive reinforcement and he knows what you are going to do. After the speech help, be sure to respond to his communication effort appropriately.

That is all there is to the GLGSP, but do not be misled by its deceptive simplicity. Consider the advantages that follow from its use. The GLGSP:

1. Gives the deaf child immediate and unambiguous feedback on the effectiveness of his communication efforts.

2. Provides an evaluation framework which makes it easy to hold the child to an appropriate level of performance.

3. Gears the interaction to the child's interest, because any corrections or assistance will be related to something he initiated, not something you thought he would be interested in.

4. Provides for regularized reinforcement of the child's communication effort by indicating approval at one level and by responding. To fully appreciate this benefit, think of the all too common situation where the deaf child makes an error in speech and the teacher's first reaction is to give the child help with his speech. If repeated enough, this can only give the child the impression that the teacher is not interested in what he says but only in how he says it.

The GLGSP is also much more flexible than this brief description can indicate. Utilizing the same ideas of approval and reinforcement at one level before going on to the next, it can be used to introduce variety into the language patterns. For example, "That was good language, but let's see if you can't say it another way." Experience has confirmed that once mastered, the GLGSP can become an effortless and routine part of adult-child communication.

A Final Word

This chapter has neglected large and important areas relevant to remediation principles and practices with the hearing impaired. Limitations of space led to the selection of one category of hearing impairment (deaf), one age group (prelingually deaf young children) and one method (oralism). Completely neglected has been the education of older deaf children which requires the combination of language and speech training with academic subject matter. Equally neglected have been the needs of the hard of hearing child or the older person who has lost his hearing.

Even for the limited group described in this chapter the description of remediation practices has been drastically abbreviated. In spite of these limitations the reader will, hopefully, have gained some insight into the complex and challenging problem of developing communication skills in the young deaf child, and can appreciate the singular importance of that training for the child's future life.

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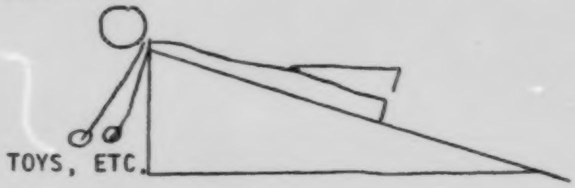
FOCUSING AND TRACKING FOR A CHILD WITH IMPAIRED VISION

To encourage a very small child to use his residual vision, place the child in the body position that affords him the most effective use of the vision he has.

It would seem wise to keep the child off his back as much as possible. When he is supine there is little to challenge the child's vision. We have used an inclined platform such as pictured below to encourage the child to focus on objects placed before him.



This can be made from a grocery carton or scrap lumber. We covered ours with padding and smooth plastic covering to make it comfortable.

ACTIVITIES TO ENCOURAGE FOCUSING:

Infant Stimulation:

1. Crib, playpen, lap
   a. Tie bright ribbons on wrists and ankles.
   b. Put bright colored tape on arms and feet.
   c. Use patterned mobiles above crib, playpen or near chair.
   d. Peek-a-boo games using a brightly colored towel to cover your head.
2. Inclined platform
   a. Use of a brightly colored top on the floor near his platform.
   b. Plastic mirror on floor at foot of the platform for child to look into.
   c. Use brightly colored beads or blocks on the mirror. Encourage child to reach toward them.
   d. Mirror on wall before child to encourage lifting head.
   e. Place platform before the mirror so child can look into it. Stand behind child. Flash a flashlight into the mirror at the eye-level of the child. As the child begins to focus well on one spot, move the light to different spots so he will need to re-focus.

Children able to sit in chairs, etc:

1. Blowing bubbles - use colored water, a bubble pipe and a plastic glass.
2. Light Bright - colored pegs to put into a lighted board.
3. Use of a flash light to focus on materials used - such as peg into a hole, etc.
4. Use of candle - Move candle from position close to child to a further distance, then up and down and then to left and right.
5. Flashlight and drum - shine flashlight under drum as the child hits the drum wherever the light shines.

ACTIVITIES TO DEVELOP TRACKING:

Infant stimulation - inclined platform:

1. Brightly colored pull toys to move slowly back and forth.
2. Toys that roll - such as balls, rattles to roll slowly across floor.
3. Toys on string to be moved in air to encourage child to raise his head and track.
   a. This could be a balloon on a string.
   b. It could be bright colored crepe paper streamers moving slowly in the air.
   c. Crinkle aluminum foil into a ball and fasten it onto a string to swing slowly before the child's eyes.

Children able to move about or walk:

1. Let child play with long crepe paper streamers and wave them in the air.
2. Encourage child to blow bubbles into the air and watch them till they burst.
3. Play balloon games. Toss the balloon up and keep hitting it to keep it moving in the air.
4. Build a bowling alley on a driveway with masking tape. Have ten pins or garage at the end. Roll the car or ball between tape - knock down the pins or put the car into the garage.
5. In a dim room use a large cardboard and a flashlight as suggested below:
   a. Have one cardboard with several holes the size of a nickel cut into it. As you sit behind it with the flashlight, shine it through different holes, seeing if the child can catch the light with his finger as he sits before the cardboard.

Catalogue Materials to Encourage Visual Activity

CREATIVE PLAYTHINGS:

Turning Balls
Fish Pocket
Bell Mobile
Bendable Mirror
Color Lookers
Big and Small Lookers
Magnifier
Prism

AMERICAN PRINTING HOUSE FOR THE BLIND:

Three Color Flashlight
Memory Bend
Large Beads and Laces

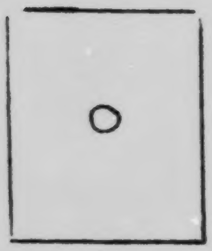
LIGHT BRITE - Sears Roebuck and Company

AN ACTIVITY IN TRACKING:

Many of our children who have impaired vision have a nystagmus which hinders focusing and tracking. This activity using light would benefit a child to focus and track more efficiently.

These are the materials needed.
1. Several pieces of cardboard 24" x 36".
2. A flashlight.
3. Several sheets of colored plastic.

Construct these lightboards using the cardboard and plastic.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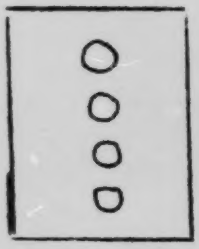
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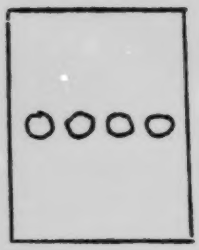
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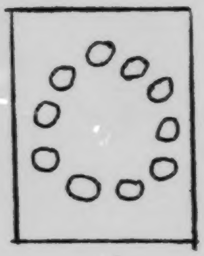
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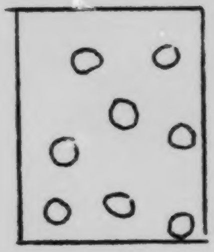
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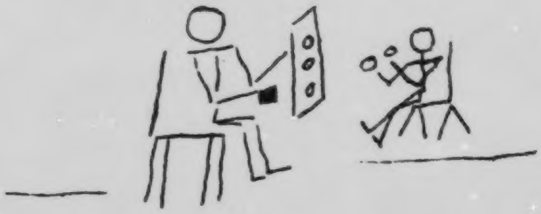

Cut holes the size of a nickle in the boards. Glue a different color of plastic on the back of each hole.

1. In developing the use of his vision, a child first focuses. So I would begin with a board like board one. You would flash the light and encourage the child to use his hand to try to catch the light as he looks at it. Use different timing with the light. Try long flashes, short flashes and then long and short flashes.

2. A child is able to track vertically before horizontally so I would use board number 2, next. As you move the light up the board, encourage the child to use his hand along with his eye movement.

3. Horizontal movement in tracking follows vertical movement.

4. This circular movement will be difficult and I would only use this after the child has shown adeptness at the vertical and horizontal movement.

5. Last I would use the board number 5. Here you could go haphazardly from one hole to another, first very slowly and then more quickly.

Things to consider:

1. Be sure the child has become proficient at one board before you go to the next.

2. Vary the length of the light to maintain interest and also to help child focus for a longer time.

3. Begin with a slow movement of the light and progress to a quicker movement.

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KINESTHESIS

The kinesthetic sense can be simply defined as the memory of muscle movement. This can be divided into hand-arm movement and/or total body movement.

The following are basic activities which have been designed to involve the kinesthetic sense.

HAND-ARM MOVEMENT:

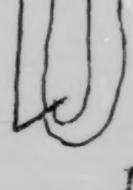
1. Materials - cornmeal, clay, sand, or beans, small tray.
   Place the chosen type of media on tray. Move hands in an upward and downward motion in the medium. Child can move left to right (crossing midline), can move in circular motions, or any drawing type activities designed for the child. Also scooping can be incorporated using either hand scooping to the opposite side or using both hands to scoop to midline.

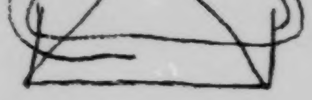
2. Materials - chalk board, chalk.
   Using only a hand-wrist movement or a total arm movement, draw up - down; left to right; circular movements; figure-eights, etc.

3. Materials - flashlight, paper, magic marker or crayon.
   This particular exercise also involves tracking. Child is to follow the path of the flashlight, again in ascending order of difficulty, up-down; left to right; etc. Use whatever writing utensil is most enjoyable for the child whether it be paint, pencil, crayons or magic marker.

4. Materials - rubber band.
   Child places hands in front of body with palms touching (praying hands). Place rubber band on hands and ask child to move hands outward, then inward, etc.

5. Materials - large pegs, yarn, sand or board.
   Place 2 pegs in sand or mounted on a board. Pegs should first be used in upright, horizontal position. With the dominate hand, child begins wrapping yarn around the pegs in circular motion. When skills increase more pegs and more difficult designs can be utilized.





TOTAL BODY MOVEMENTS:

1. Materials - balance beam.
   Child can manipulate his body through space, explore space, and discover what affect his body has in space by doing a number of different exercises on the beam. These exercises include those such as scooting, crawling, walking with the legs straddling the beam, walking forward, backward and sideward on the beam. Numerous variations can be used according to the developmental level of the child.

2. Materials - spring-a-ling or bounce board.
   The child may benefit here by the utilization of imagination. You might try activities such as jumping on and off the board. Sitting on the board Indian Style while attempting to bounce as well as balance oneself. If child is just beginning to learn to jump the teacher and child should both be on the board together. Place child in front of you with his back facing you so your body merely becomes an extension of his. These activities aid a child in discovering about his body weight and again movement in space.

3. Materials - truck or car tire or plastic innertub, large sized barrel.
   Car tire can be used in many imaginative ways. Child can step in and out of tire, walk around the interior or exterior circumference of the circle. This can be done as in coactive movement or as in a follow-the-leader game. Teacher and pupil can sit across from each other with feet in the center of tire. Teacher and child can alternate bouncing as in a tetter-tottering game. Many variations can be used according to the child's ability.

   Using the barrel can be another fasinating activity for a child and the plane in which you are working is parallel to the ground. The child can crawl forward and backward through the barrel, over it and around it. Again we are giving a child a sense of body awareness in space. He is also able to discover what affect and controls he has on his environment.

4. Materials - finger paints, paper or newspaper.
   This again is a most exciting activity for children, one on which they could spend hours.

   Begin by allowing the child to choose as many colors of paint as he wishes. Place a large sheet of newsprint or butcherpaper in front of a chair in the middle of the room. Allow the child to have as much space to explore as possible. Let child put the paint on the paper with a tongue depressor or knife. The child sits on a chair in front of the paper and begins his painting with his toes. He can make large circular motions, vertical or horizontal motions and foot and hand prints. Foot prints can allow a child to see the path that his body has moved in space.

5. Materials - mirror.
   This is a very basic but also very important aspect of a child's development. Teacher and child sit in front of a full length mirror. Begin with the child sitting in front of you. Start by having the child imitate your

movements. Begin at the child's developmental level. This may be imitation of pointing to body parts, imitating bilateral gross motor movements on even more difficult, unilateral movements. These types of imitations are not only helpful in building the use of kinesthesis but also in concept formation. Concepts such as left, right and in front, behind can be taught in this manner.

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TACTILE DISCRIMINATION

DEFINITION: The ability to identify and match objects by touching and feeling.

SUGGESTED PROGRAM IDEAS:

Basic Tactile Awareness:

1. Animal textures: teach textures by playing with chickens, turtles, rats, dogs, cats, birds, snakes, etc. Feel differences between whiskers, nails, tails, body, etc. Explore, feel, and discuss human hair, nails, skin, body parts.

2. Wet materials: Explore, match and contrast texture of mud, wet sand, finger paint, moist clay, water, milk, syrup, etc.

3. Dry elements: Explore, match and contrast texture of dry sand, dirt, pebbles, rocks, cement, brick, wood, cloth, rough and smooth paper, etc.

4. Clothing textures: Explore, match and contrast and label differences in velvet, furs, satin, silk, wool, cotton, nylon, etc. Make books from different types of cloth; bean bags.

5. Food discrimination: Explore, match and contrast tactually the texture, size and shape differences of apples, oranges, bananas, pears, potatoes, tomatoes, grapes, etc.

6. Geometric form discrimination: Explore differences between wooden geometric forms.

7. Symbol exploration: Feel differences between wooden, sandpaper, Braille letters and numerals.

Tactile Matching and Discrimination:

1. Common objects: Teach tactual differences between common objects: spoon, knife, fork, glass, ball, shoe, nail, tack, coin, string, etc.

2. Gradations: Teach tactual gradations of fine to rough sandpaper, long and short sticks, light and heavy objects (wood blocks, marbles, etc.) big and little forms (squares, circles, triangles).

3. Body localization: Teach child to duplicate teacher stimulation of pupil body areas such as touching points on head, face, soles of feet, hands and fingers held behind back, neck, etc.

Instructional Materials:

1. Texture ball, #b750, Creative Playthings Princeton, N.J.
2. Kinesthetic Alphabet, #KA84, R.H. Stone Products, Box 414, Detroit, Michigan 48231
3. Graded Cylinder Sets with Knobs (weights), #AT620-AT623, Creative Playthings
4. Touch abc lower-case letters, Warrens' Educational Supplies, 1252 Sylvan Avenue, West Covina, California
5. Wonder Texture Box, #AA810, Creative Playthings
6. Fabric box of assorted materials
7. Large Geometric Solids, #39; Small Geometric Solids, #42 (Teaching aids), A. Daigger and Co.
8. Wood Lower-case Letters, #A561; Wood Numerals, #A562, Creative Playthings
9. Sandbox
10. Fingerpaint
11. Clay and crock
12. Cans and boxes of rocks, gravel, soils, etc.
13. Sandpaper-touch boards #35, 36, 37 (teaching aids), A. Daigger and Co.
14. The letter form board, Houghton Mifflin Company, Department 14, 110 Tremont Street, Boston

Related Programs:

1. Montessori Thermal Cylinders, #89, and Touch Boards (teaching aids), Daigger and Co., 159 West Kinzie Street, Chicago, Illinois 60610
2. Touch Alphabet-Object Boards, Touch Numbers Board, My Guide to Safety Tactile Materials, Touch Incorporated, P.O. Box 5385, Reno, Nevada
3. Programs developed to teach differentiation of tastes and smells
4. Montessori Program Adaptations
5. Letters are for Fun (A kinesthetic book), Touch Aids, C&E Krueger, 1790 S. Juniper Street, Escondido, California 92025

General References

1. Anderson, Robert P., "Physiologic Considerations in Learning: The Tactual Mode, Learning Disorders", Vol. 2 Jerome Hellmuth (ed), 1966, pp97-112, Special Child Publications, 71 Columbia Street, Seattle, Washington 98104
2. Montessori, Maria, "Sensory Education", Dr. Montessori's Own Handbook, 1965 pp 65-123, Schocken Books Inc., 67 Park Avenue, New York, N.Y. 10016

LONGVIEW AIM: Strengthen vocabulary through the use of tactile discrimination

IMMEDIATE AIM: Teach the concept of straight when it is used to describe the direct route of locomotion.

TECHNIQUES:

1. Have the child remove his shoes to intensify tactile stimuli.
2. Place a rope (10 feet long) on the floor extending from the wall toward the center of the room.
3. Have the child align his back to the wall, and place one foot on the rope.
4. Tell the child he is going to walk in a straight line by following the rope. The teacher will guide the child at first telling the child to keep one foot on the rope at all times.
5. After the child has walked the length of the rope in a straight line, have him to tell you what he has done in complete sentence form. (I walked in a straight line.)
6. Reinforcement.

Materials - 10 foot rope

ASSIGNMENT: This exercise can be done at home. Encourage the parents to strengthen both vocabulary and tactile skills.

STEREOGNOSTIC SENSE

The purpose of developing the stereognostic sense is so that a child can recognize an object by initial contact. Visually, a child might look around a room and see a chair sitting on the far side of a table. He does not see the whole chair because the table blocks his view, yet he still recognizes it as a chair. Yet he had to see chairs many times before and learn to differentiate their particular characteristics from those of other objects in order to recognize it without seeing the whole chair.

The same is true for developing the stereognostic sense. A sensorimotor basis is needed for understanding a relation between the spoken word (or gesture) and the three-dimensional object it represents.

ACTIVITIES AND MATERIALS:

Matching
- Any identical objects
- Shape sorting box

Sorting
- Buttons
- Screws
- Grab bags

3-dimensional puzzles

Objective 1: Child will explore a three-dimensional object (example: piece of real fruit or plastic fruit) tactually.

Objective 2: Child will choose an object from another set that matches the first object he explored.

Objective 3: Child will name the object he has explored and matched.

MATERIALS - Two sets of identical objects.

RATIONALE - Once the child has completed the objectives, he will be aware of the total shape of the objects used to the extent he can match it to an identical shape. Later he will be able to add a label to the shape.

ACTIVITY:

The child and teacher sit beside each other at a table or on the floor. Three objects are in front of the child. The teacher asks him to pick up one and feel it (manipulate his hands if necessary). To the side are three identical objects. The teacher asks him to find one object from this set that matches the first one he explored.

While doing this activity, name the object for the child. After you have done it several times, then ask the child to name the object.

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AUDITION

The sense of audition can be defined for our purposes here as the receiving of sound through the ear. The reception of this sound is not enough; the sound must be perceived--interpretation of the sound received by the ear so that the sound becomes more than noise and has content information. It is our feeling that auditory acuity as well as auditory perception can be refined to provide greater use to the individual through intensive training. With the multi-handicapped, visually and hearing impaired child, we have found it beneficial to initiate all auditory training activities on a multi-sensory basis. It is not enough to initiate the auditory training activity through the sense of audition only. In the initial phase of our auditory training program the sound source is presented multi-sensorially. For example, if a noise maker such as a bell were being used, the bell would first be thoroughly explored by the child; he would be manipulated in effecting sound emission from the instrument; and he would experience the tactile information provided by the ringing of the bell. In each of the steps listed below the initial phase would always involve multi-sensory presentation, with a gradual cutback of the information provided through the visual and the tactile channel until the only sensory stimulus is auditory information.

Below is an outline of several auditory training activities:

I. Environmental Sound

A. Auditory Acuity

The child may come to your program with a defined level of auditory acuity. Our experience has shown us that with intensive auditory training this acuity level may be changed. This does not mean that the child's hearing mechanism has changed. It perhaps means that the child has learned to listen. He has been taught that sound has meaning. Over many months and with much repetition the child has been taught how to respond to sound to alert those around him that he is receiving and perhaps in some instances differentiating auditory stimuli.

1. Recognition of sound

Conditioning phase

It is our feeling that we want to waste none of the child's time in the classroom in unnecessary effort. We want to use our energy and the child's energy maximally in situations which provide the most meaning for the child. Consequently the conditioning phase that follows below is organized in a manner where sound can become a signal for the child. This is not symbolic functioning in that the presentation of the sound notifies the child of a happening, a consequence, or that he is expected to make a motor response.

a. Informal Auditory Acuity and Conditioning Exercises

Child sits in front of a door or a cabinet door.

The adult knocks loudly on a door then immediately walks through the door and makes contact with the child.

The adult knocks on the cabinet door and immediately opens the door and pushes the truck, ball or some other attractive object out of the door.

Initially it may be necessary to do this type of activity with two people. One person would do the knocking on the door and the consequent walking through the door. The other person would help the child be prepared to attend to the sound in a multi-sensory manner. For example, the child's hand might be placed on the door and his head positioned in a manner where he is sure to see the person and or object moving through the door.

Presentation of a loud cow bell sound prior to mealtime.

This initially would need to be done right before the child sits in his chair for dinner. The child would need to see the bell being rung, feel the bell being rung, and hopefully hear the bell being rung.

For both of the above activities it would be hoped after much repetition, the child will anticipate the consequent action that he has learned follows the auditory signal, e.g., someone or something coming through the door; the presentation of food at mealtime.

The same sort of auditory training can be done with toilet flushing--the manipulation of the handle down and the consequent sound production, tactile feedback, and visual information of the water movement.

Vacuum cleaner--presentation of the vacuum cleaner by pushing the on button and feeling the vacuum bag inflate and hearing the sound of the vacuum.

Auditory set for person introduction. The parent approaches the crib of the child in a regular manner. Prior to picking the child up he presents an auditory code that he hopes will be associated with him. For example, the mother stomps twice on the floor, the father stomps three times. Any type of sound stimulus might be tried.

b. Formal Auditory Conditioning

After reviewing the child's audiogram a noise maker whose frequency of response range is within the child's maximum hearing level is elected.

The child is placed in a comfortable position.

The noisemaker is introduced to the child for general exploration. The adult more than likely will need to help the child manipulate the object to effect the sound.

1. The child is manipulated in affecting the sound from the instrument with his dominate hand.
2. The teacher assists the child in making a motor response for example, placing a block in a clear plastic box after the sound is presented.
3. This is repeated many times.
4. The teacher then moves in front of the child and takes over the manipulation of the musical instrument.
5. The teacher manipulates the musical instrument to make a sound and assists the child in placing the block in the box. This is repeated many times.
6. The teacher releases her manipulation on helping the child respond to the sound to test if he can independently make the response to the sound.
7. Once the child makes the response, within the multi-sensory presentation as described above, the teacher then presents the noise maker in back of a screen and manipulates the child in placing the block in the box.
8. The teacher then presents the musical instrument in back of the screen and waits for the child to perform the appropriate motor response.

The above is formal auditory conditioning to a mechanical or musical noise.

The same step by step presentation would occur when using a speech sound for the conditioning auditory stimulus.

1. The teacher selects a vowel sound which after analyzing its format (Jeffers; Volta Review 68; pp. 418-423, 1966) falls within the maximum frequency of response range of the child's hearing.
2. The teacher might chose to associate this vowel sound with an object. We tend to do this quite frequently in our program in that we want sound to have as much meaning as possible. There are many different theories on the advisability of this action. However, we have seen it pay off in our program. If you choose not to associate the vowel sound with an object the steps would be similar to those listed below only omitting the period in which the association takes place.
3. The teacher would present the child the object e.g., hat. The child would try on the hat, the teacher would try on the hat, and perhaps the doll sitting beside the child would try on the hat.
4. The teacher would sit across from the child and place her hand over her articulators. She would produce the word hat giving emphasis to the short "a" sound.
5. With each production of the sound of "a" in hat the teacher would manipulate the child to place the hat on his head. The teacher at this point is still presenting the sound stimulus via the Tadoma method.

6. The teacher then would curtail the presentation of the word via the Tadoma method and simply present the word. The child would still be receiving what visual clues-speech reading-he could as well as what auditory clues he could. With each of these presentations the teacher would manipulate the child in placing the hat on his head. After several repetitions the teacher would curtail her manipulation of the placement of the hat on the head to see if the child will do it independently upon presentation of the word. We do not move on to the next step until the child has given an independent response to the sound

7. The teacher then covers her mouth and presents the word hat and manipulates the child in the placement of the hat on his head.

8. The teacher then removes her manipulation of the child, and with her mouth covered presents the word again to see if the child has learned the motor response to this sound and this word.

The above activities are awareness activities. The next step is contrast.

c. Contrasting Mechanical or Musical Instruments

1. Select two musical instruments that contrast in sound.

2. Present each of the musical instruments to the child allowing him to manipulate them and to effect the sound.

3. Move across from the child. At this point it will be important for the teacher to have a matching set of musical instruments. For example, if the two sound sources being presented are bell and drum, the teacher will need to have a matching bell and a matching drum.

4. The teacher rings her bell and manipulates the child in the ringing of his bell and presents the concept of same. These sound the same. The same thing is done with the drum.

5. The teacher then removes her manipulation and rings the bell and or beats the drum and waits for the child to do the same.

6. The teacher then covers her musical instruments from the child's view and presents one of the musical instruments behind the screen and manipulates the child in the reproduction of the sound with his own musical instruments. She then releases her manipulation and waits for the child to respond as he has been taught. When this phase has been accomplished we have information that the child is discriminating between musical instruments.

d. Contrasting of Sounds Using Speech Sounds

1. The teacher decides upon two contrasting speech sounds to present to the child. We have had most luck in starting with the vowel sounds.

2. The teacher associates the vowel sound, short a with hat and the vowel sound $\overline{oo}$ with shoe for example. The vowel is emphasized in the word and the child experiences this speech sound via the Tadoma method.

3. Each time the word is presented, the child is manipulated in an association of placing the hat on and placing the shoe beside his own shoe.

4. The teacher cutsback on her manipulation and presents the words hat and shoe and waits for the appropriate response. Of course it will be important to always reward and pay off the appropriate response, in order to communicate to the child that he has engaged in the motor response that you were looking for.

5. The teacher then cutsback on the Tadoma method presentation and presents both the word without the Tadoma method being used and manipulates the child in the appropriate motor response.

6. The teacher then cutsback on her manipulation and waits for the proper response. If this occurs the teacher covers her mouth and presents the two words manipulating the child through the appropriate response then withdraws the manipulation to wait for the child's response.

The above activities are just samples of activities that can be done in the first phase of auditory training--that is AUDITORY AWARENESS and DISCRIMINATION. It is important to remember that there are several aspects of the sound that are involved in the above division. The differences and likeness of sound, the localization of sound, the high and low variation of sound--this would be a frequency variation; the soft and loud variations of sound--this would be an intensity variation. Throughout the auditory training period regardless of the phase, these are variables of the sound stimulus.

The second area of auditory training might be called Auditory Decoding. This would be the ability to not only receive and be aware of the sounds, but to associate them, to integrate them, to understand them as meaningful symbols. Auditory decoding is taking place when the child hears the vowel sounds "a" and associates it with hat by pointing to hat or putting the hat on his head. Auditory decoding is taking place when the child hears the door slam or someone rap on the door very loudly and he turns toward the door for an expected entrance of a person. Auditory decoding is taking place if the child hears two stomps prior to being picked up out of his crib and associates the idea of mother with those two stomps. In my mind it is not sufficient to use a lot of the child's energies simply for awareness. I think at each step there must be a meaningful hook up. The association aspects of the activities listed under auditory acuity, awareness, and discrimination would be appropriate for auditory decoding activities. As long as there is a meaningful association between the sound, whether it is a speech sound, or an environmental noise, or musical sound, this is working toward auditory decoding--understanding auditory information as meaningful information.

B. Auditory Memory

This aspect of auditory perception entails the ability to retain and recall general auditory information. Children without hearing losses may have problems in this area. Activities in this area are listed below. This is a very brief sampling of the types of activities that might be appropriate in this area. There are millions more and we are really only limited by our imagination in these types of activities.

1. Activities for Auditory Memory with Musical Instruments

a. The teacher presents the child with three musical instruments.

b. The teacher has a matching set.

c. After presenting all three, the teacher selects a bell from the three instruments and rings the bell.

d. The child is asked to select from the three musical instruments what musical instrument the teacher presented and is asked to then ring the bell.

The child is having to retain the sound of the bell while he selects from the group that sound that is going to match up to what he is holding in his auditory memory.

2. An example of an activity for Auditory Memory with Speech Sounds

a. The teacher might select a vowel sound and present it to the child via the Tadoma method.
b. She would then place the child's hand near his own articulators and ask for his approximation of the sound.
c. To make the activity more complex the teacher might present the vowel sound in a series for example, short a, pause, short a, pause, short a. She would then ask the child to repeat this.

Exercises for auditory memory can be done with words, with series of instructions, and with a variety of rhythmical patterns. For example, you may have children in your program whose auditory memory is relatively short. You might start with giving them instructions to touch their head, clap their hands, and stomp their feet. You would then want to make the instructions more complex and removed from their body so that they would have to retain the auditory information for a longer period of time.

C. Auditory Sequencing

This entails the ability to recall in correct sequence the aspects of the auditory information presented. Whenever more than one sound is presented there becomes a sequence to auditory information. Even in some vowel sounds there is a sequence. For example, in the long a sound it is really a combination of ai taking the form of a diphthong. Each time we receive and interpret a word we are not only exercising our auditory acuity, our auditory decoding ability, our auditory memory, but also we are exercising our ability to sequence the auditory information. For example if I say hat, you are going to run into trouble if you have forgotten the initial h sound by the time I get to the end of the word. Perhaps you might repeat back to me that I said at. You might even have such a defect in your auditory memory and sequencing ability that you might tell me that I had said ta, in otherwords, you would be going backwards in producing the word to me. Words not only have a specific sequence, but our phrases and sentences do too. Many of the activities that we do to facilitate the development of the auditory sequencing ability are activities such as clapping certain rhythms, dancing certain rhythms, word building with the individual phones of speech into whole words that are meaningful and recognizable to the child. We found that the child who is having trouble with auditory sequencing enjoys the presentation of the various sounds of a word in a multi-sensory manner. For example, if the child can see the visual sequence of a word, can trace the individual graphic symbols in the word, and can put them together in their order as he hears them, this facilitates, in a multi-sensory manner his learning the auditory sequence. We hope that through this multi-sensory presentation he can rely on his strength, which may be the visual channel or the tactile channel, to get more reinforcement and more clarity about the auditory information.

D. Auditory Figureground Activities

This is the ability to attend to a specific auditory stimulus, which is the figure stimulus and to push back, into the background, noise or the extraneous auditory stimuli. Many of the children in our program whose hearing acuity is within normal limits have a great deal of trouble in this area. The following are some of the activities that we have tried.

1. Giving sanction to the child's difficulty, we would start his day out in a low noise situation, perhaps with the child and the teacher being the only ones in a small alcove of the room.
2. We would gradually introduce background stimuli such as the presentation of the air conditioner motor as the background noise with the child being encouraged to focus on the teacher's voice or another figure auditory stimulus.
3. Increasingly during the day we might increase the noise background to test the ability of the child to remain tuned into the figure auditory stimulus vs. the background stimulus.
4. The teacher then might remove herself more from the child and give her auditory information at a further and further distance from the child's body to see if he could maintain, even though the intensity of the auditory information may be decreased, his attention on the figure auditory stimulus. We might then try to present the child with a series of objects, five of which may have a short a vowel sound. We present the whole word of all the objects and ask him to select from that group those items having the sound a in them.

This is just a very small sample of the type of activities that might be included in an auditory training program. It is quite important to remember that an intact hearing mechanism is not sufficient to insure auditory awareness, auditory discrimination, auditory decoding, auditory memory, auditory sequencing, and auditory figureground skills. The child must be able to associate the sound - to integrate the sound.

Some of the materials that you saw used in the area of auditory training on the Sensory Motor Tapes were as follows:

The Kalimba, Creative Playthings.
The Sound Board, known as the TAVU, tactile auditory visual unit, this from Oklahoma Audiometer Service, Oklahoma City, Oklahoma.
The Buzzer Board and associated Visual Patterning Cards from DLM.
The Rhythm Band Auditory Training Tape as well as the environmental sound training tape is from DLM.

The variety of musical instruments can be obtained from most educational supply houses. Sound cylinders are Montessori material. It is my feeling that if you know what the sequential steps are in the teaching of a skill that the materials to be used are easy to decide upon. To me it is not the materials which are of the utmost significance, but is the thorough and sequential teaching of the skill.

Some ways and or devices that we have found effective in getting a child's interest on our mouth as a sound producer have been as follows:

1. Using the Tadoma method.
2. Talking against an inflated balloon with the balloon right next to our mouth.
3. Blowing with our mouth on the child's hand.
4. Wearing bright colored lipstick.
5. Shining a flashlight on our mouth.
6. Talking at eye level with the child.
7. Placing a tasty object beside our mouth when we speak to the child and then giving the object to the child to eat for his visual attention to our mouth.

A BRIEF NOTE ABOUT LANGUAGE:

In the video tapes that you have viewed we have responded most to the sensory--motor level of experience. The bases for language certainly lie within the experiences picked up at the sensory motor level. However, we did not go into detail about language in our video tape. I felt it might be helpful to make a few comments about the language process. There are several conditions necessary for normal language learning. They are as follows:

1. Adequate opportunity for experiences.
2. Intact sensory pathways through which experiences can reach the child. This does not mean that the conventional sensory avenues of vision and hearing must be intact. We have many other sensory channels through which we can communicate language symbols; the sense of touch, the kinesthetic sense, etc. Usually there is residual hearing and vision available to the child. What we must do is accompany what auditory information and visual information that is available to the child with an added input from the tactile or kinesthetic channel. For many deaf blind children oral language is not much of an alternative for effective communication. Consequently we have found, especially with our rubella children, that manual or gestural communication has been very usable. The procedure for introducing manual communication is exactly the same as those sequential steps in introducing oral language.
3. The child must be able to develop the capacity to pick up meaningful patterns within the sensory stimulus both spatially and/or temporally. Again this capacity must be developed both for oral and manual communication. When there is an interruption in this area we usually describe it as a perceptual disorder.

4. Meaningful patterns must be able to be incorporated with existing ones. This is what we refer to as central language; the association of the experience and/or the object with the symbol. Oftentimes when the breakdown in the language process is pinpointed in this area the child may often be referred to as having an auditory agnosia. There are perhaps other ways that the hook up or the association might be made, perhaps through another channel. The following is a very gross and general statement about the procedure for introducing language as labels--as symbols for our experiences and objects within our environment.

a. Present the sensory motor experience before you present the language label. For example, if you are working on the oral language label or the manual language label for "ball" it is necessary for the child to have much experience with the ball and its various functions.

b. Associate the language label in a multi-sensory manner with the actual object.

c. Broaden the category of objects. For example if ball is used, introduce a variety of kinds of balls, and label them as you did in step number 2.

d. Contrast - a second category of items might be introduced which contrast not only in function, but in look of the word on the lips, as well as the difference in the manual communication for the object.

e. Many items would be added to the second category all of which could be identified with the same language label.

f. It is important to remember that the normal hearing a child spends many, many months listening and receiving sound and language prior to expressing himself. This is also true only in an exaggerated form with the child who has sensory involvement.

g. After a reasonable time we would ask the child to express himself--label the item. We would reward him very heavily for this.

h. After the child had a repertoire of naming words we would introduce function or doing words. They would be associated with the action of the object or the person, just as the naming words were associated with their language label.

i. We would then combine the naming words with the doing words.

j. We would continue to work on language acquisition adding to the syntax and the morphology of the child's structural language. When the child is able to combine a sentence pattern such as noun, verb, object, we begin introducing the elements of language. This would include the phonology--the study of the phonemic and prosodic patterns of speech. We would study these orally and manually and graphically. We would emphasize the prosodic elements of speech, maximizing the characteristics of tone, pitch, quality, loudness and duration. We would study the morphology which means the form of our language. The morpheme is composed of phonemes and is the definitive structural unit embodying lexical and grammatical meaning. It is the minimal acoustical unit. With the new gesture and manual communication such as Signing Exact English and Seeing Essential English it is the minimal manual unit that conveys meaning. We would call attention to the syntax--the way in which sentences are constructed out of morphemic substance. The syntatic structure is the significant unit denoting word order and relationship determiner of morphological building blocks of language.

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OLFACTORY SENSE-THE SENSE OF SMELL

Below is a designed lesson plan for a young blind child. More sophisticated exercises could be presented as the child develops, i.e., Identification of: 1. flower scents; 2. spices; 3. vinegar vs. honey, etc., advancing from two to many different olfactory experiences for the child.

MATERIALS:

1. One orange
2. Paper towels
3. Tray
4. Moist towel for clean-up

PRESENTATION:

1. Invite the child to do the exercise.
2. Present the towels, have child assist in placing the towel on the tray.
3. Present the orange, placing on the tray and having the child reach for it.
4. If assistance is necessary here, begin the initial peeling and verbally or manually explain as you go what steps you are taking. During these steps have the child's hands involved as you either move them yourself or have his hands over yours for most input.
5. Continue peeling until orange is thoroughly peeled.
6. Have child open orange, feeling that there are sections, separating each one.
7. Smell and eat.

During the entire exercise the child, depending upon his couriosity, will be smelling, touching, feeling and i.e., experiencing feelings in the salivary glands.

Variations may be added:

1. Counting how many sections there are.
2. If child is sighted, have him identify the colors of the orange.

PURPOSE:

To help develop olfactory sense, and offer description of different smells, touches, tastes to the child's awareness.

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BARIC SENSE-THE SENSE OF WEIGHT

Exercises to teach discrimination between light through heavy.

EXERCISE:

1. Materials
    1. 2 small orange juice cans with covers.
    2. 2 pieces of clay, one small piece and one large piece.

2. Presentation
    1. Present light
    2. Present heavy
       (Using the 3 period lesson)
       "This is light"
       "Show me light"
       "Which is light"

3. Exercise

When the child is able to discriminate the two opposites then the teacher can infiltrate a medium weight, progressing to having several different quantities of weight.

PURPOSE:

To develop baric sense by directing his attention to the quality of weight. This opens a channel for sensory perception which will help the child perceive his environment and the objects in it, via the sense of weight.

VARIATIONS:

Adds another quality category to perception network.

Using a small, light coat and a big, heavy coat. Lay them on the table or floor having the child identify the light from the heavy and as he progresses (or if they were presented at the same time) identify big from little.

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THERMIC SENSE-THE SENSE OF TEMPERATURE

This calls upon the child to coordinate touch, kinesthetic and thermic information for an end product - tolerable water temperatures for hand washing. Prior to this the child should have been exposed to the contrast of hot and cold in a structured exercise, e.g., two bowls of H_2O, one hot and one cold.

MATERIALS:

Sink and water faucets.

PRESENTATION:

This particular exercise is designed to use in the everyday activity of hand and face washing, along with teeth brushing. This calls upon the child to make discrimination in certain temperatures for certain activities.

EXERCISE:

Have the child turn on the "cold" water first to experience the extreme. Then turn off "cold", turning on "hot". Turn "hot" off. Returning to the "cold", adding "hot" until it is regulated to their comfort.

PURPOSE:

To teach the child to discriminate between hot, cold, and warm, at the same time learning how to accomplish a daily self help skill of water regulation.

DEVELOPMENTAL LEARNING
CURRICULUM GUIDE
FOR
DEAF-BLIND CHILDREN

Compiled by
Deborah Cross

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This curriculum guide has been compiled from many sources. It presents some sequential steps and activities to aid the teacher in planning a program. It is going to be fully revised and documented in the near future.

I included many ideas from the sources listed in the bibliography. The reader must be cautioned that this guide is only a skeleton of ideas and it is not ready for formal publication as yet.

I would like to acknowledge the primary authors which were most helpful:

Marianne Frostig
N. Kephart - Slow Learner Series
B. Cratty
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G. Harris
and many others.

Deborah L. Cross
Michigan State University
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BEHAVIOR CHECKLIST

Emotional Make-up

Autistic like behavior

Tense

Relaxed

Nervous

Anxious

Behavioral Functioning

Rhythmicity - Degree of regularity of repetitive functions (sleep, eat, toilet)

Child's characterized initial to new stimuli patterns

Distractability - Effect of extraneous environmental stimuli in interferring with ongoing behavior: A. with activity B. with environment

Responsiveness to Approval
Disapproval
Reward
Punishment

Specific Behavior

Hyperactivity

Hypoactivity

Lack or presence of interest in people

Appears to be in another world

Obsessive interest in a specific object

Length of attention span

Problem solving ability

Presence of perseveration

Awareness of danger (Avoids simple hazards, attempts to protect self)

Acceptance of Hearing Aid and Glasses

Explores environment
- A. Interest
- B. Curiosity
- C. Length of time spent in exploration
- D. Through manipulation
- E. Perseveres

Shows evidence of thought and planfulness in actions

Overcome simple obstacles in moving about

Frustration toleration

Ability to retain and recall events or information occuring in past (memory)

Seeks human contact

Obsession over details

Task Performance

Begins task
Initiates task on his own
Finishes task
Performs task after demonstration
Understands task and direction
Capability of child to Perform task
    Expectation level (too high, too low, appropriate)
Is child Motivated
Distractibility

Performance Behavior

Is child cooperative
Is child attentive
Does child perform task:
- a. passively
- b. actively
- c. with resistance

Is child interested in task
Child performs task
- a. with much help
- b. with minimum help
- c. with no help

Origin of Behavior During Behavior

Child was bored: Task too easy
    Task too hard
Child was in bad mood
Child seemed ill
Child personality interferes (babied, immature, stubborn, etc.)
Child's family influences child's behavior

SELF AWARENESS
SOCIAL AWARENESS

Body Awareness	I. Inward	
A. To become aware of one's identity	A. Sense of belonging	Goes unaided to own room Recognizes own clothes, closet, bed, toys, projects, etc. Recognizes own teacher, parents Recognizes own place Awareness of home as opposed to school
B. To become aware of one's body and one's being	B. Reaction to external stimuli. Note type of reaction. Does child react emotionally? Does child react at all?	Movement 1. of objects 2. of self through space as in swinging Position - manipulate child's body into different positions Temperature 1. Hot 2. Cold Pressure - weight down parts of body Pain Speed - rate at which child moves through space Media - water, sand Surface - sand paper, foam rubber, water, noodles (for walking), box of beans Foreign stimuli - tape, glue, clothespins, bandaid, string tied, feathers, sheet Confinement - small area (box) vs. large area Smells Taste Stimuli Auditory Stimuli Visual Stimuli Soiled pants

	C. Imitation	Imitates body movements and positions
	D. Movements on command through imitation, speech reading, gesture or pictures	Moves part pointed to Identifies part by use
	E. Identification	Recognizes self in mirror Recognizes self in picture Recognizes own name Identifies parts
	II. Increased knowledge of body parts on other models	Recognizes body parts on doll Imitates doll position Completes people puzzles Adds parts to a face and body Adds missing parts Draws a body

GROSS MOTOR SKILLS

Muscular Strength	Hands Arms Legs Trunk	Exercises Pulling Tug o'war Rope pull lying down Pushing Lifting (eg. weights), Carrying Climbing Scooting on bottom
Locomotion Observe: trailing ability use of vision awareness of self as distinct from environment	I. Crawling Dragging the body along the ground	crawl through lowwbox tunnel
	II. Creeping note arm-knee use	Homologously- arms and knees move together (frog like) Homolaterally- right arm and knee moves together and left arm and knee move together Cross Pattern- right arm and left leg move together left arm and right leg move together
	III, Scoot on bottom	

	IV. Walking	On visibly marked path Walk through path - pins, rows of furniture Practice different kinds of walks
	V. Running	Relays Obstacle Course
	VI. Jumping	A. In place B. Along path C. From one place to another
	VII. Rolling	On incline On level ground Ability to roll straight
	VIII. Tumbling	Somersault Stunts
	IX. Climbing	Stairs Ladders Jungle Gyms
	X. Hopping	A. In place B. Along path

	XI. Use of objects to Aid Locomotion	Bike Swing Rocking Boat Scooter Ropes Slide Skates Swimming Merry-go-round Barrel Seesaw Wagon Truck
Balance	I. Ground Level	Walk carrying objects, object on head. Walk on taped or painted path Walk along cord path Creep elevating one hand or foot Walk on knees Stepping stones "painted" on floor Walk in shoe boxes Tip Toe, Hop, Jump Step over obstacles Walk between rungs of ladder

II. Raised level

Stairs
- frontwards, backwards, sideways, alternate feet
- creeping

Balance Board
- one foot on and one foot off
- step by step (leads with one foot only)
- sideways
- frontwards, creep, crawl
- step over objects
- carry objects

- several boards at different angles
- several boards together of different widths
- several boards at different distances

Ladder
- walk on rungs - single and doubles
- walk between rungs
- walk on rails
- creep on rungs

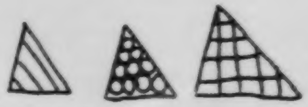
Stepping Stones
- walk on various sizes and distances
- over backs of chairs put together
- box stilts
- can stilts
- on pillows

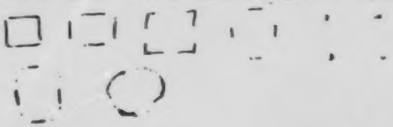
	Carry things in a wheelbarrow
	TeeterBoard
	Stand on small stool
	perform different movements
	reach for things
	play catch
	Incline Plane
	up, down
	walk, creep, crawl, roll
	Inner Tubes
	Barrels
	straddle, kneel on, rock
	Spring Board
III. During Movement	Hop
	Jump
	Creep
IV. At various speeds	
V. In different media	Water
	Sand
	Box of Beans
VI. On different surfaces	Sticks
	Hills
	Stones
	Pillows
	Tramp

PERCEPTUAL - MOTOR SKILLS

Fine Motor Skills	Eye hand coordination	Gross skills Throwing Hitting Bat balloons Ring toss Fine Skills Build block tower Stacking and nesting Fill and empty containers Pegboard Puzzles Manipulative toys Sorting Buttons, zippers Tunnel drawing Tracing dot to dot Color within lines

PERCEPTUAL SKILLS

Visual Perception	I. Figure Ground ability to select from a mass of stimuli a particular center of attention (figure) and to disregard the rest of the stimuli.	Picture puzzles Form boards Find shapes in complex designs. a. Colored shape b. Blackened outline c. Light outline d. Broken outline Find specific shape in area with similar stimuli. Find missing details Find given object in page with other irrelevant objects. Find hidden pictures within one picture Choose a required object from a group of different objects.
	II. Form Constancy ability to recognize that a figure (or object) may vary in size, texture and position without altering its basic form.	Locate all the circles from a page of different forms, designs or pictures containing many circles (different sizes) Sorting activities of objects with varying degrees of alterations which still remain the same basic object. Recognizing pictures of objects in different positions. String buttons or beads. Designs within shapes  =all are triangles.

III. Position in Space ability to distinguish a particular form from other figures as it is presented in an identical rotated or reversed position. Forms and objects will remain constant. (Prerequisite- training in body awareness and the body's position in relation to objects)	Series of pictures- child finds one facing a different direction. Recognition of relationships involving: above, below, under, over, on, in, as introduced in pictures. Matching exercises where child matches pictures or dramatizes the picture. (the language of the above comes later. This exercise merely involves the ability to perceive the differences and possible positions of things in space.)
IV. Spatial Relationships ability to perceive position of two or more objects in relation to oneself and to each other. Ability to judge: a. size relationships b. shape relationships c. Distance relationships d. directionality (Refer to Eye-Body Coordination)	Awareness of falling objects Show series of pictures, one having an incongruity such as size. (Note: Child must have language and familiarity with content of picture) Imitate marble patterns Follow mazes on paper, model or as physical activity Connect dots, Complete pictures Puzzles of various sizes and shapes Montessori cylinders Nesting blocks, Stacking Build block tower Shape box
V. Closure ability to recognize incomplete figures and ability to complete them.	Shapes and Designs Progress from complete form to more and more incomplete and vague 

Tactual Perception (refer to visual perception & adapt steps to the tactual sense)	I. Reaction to External Stimuli - Awareness Will child free himself from unfamiliar stimuli? Is he curious about unfamiliar tactual stimuli?	See Body Awareness p.3 Attach different kinds of tactual stimuli on child's body. Note reaction. Does child react (respond to being touched and handles)
This section is by no means complete.	II. Gross Imitation	See imitation levels p. 4 See Body Awareness p. 3
(The gross and fine motor skills help develop tactile perception & discrimination)	III. Manipulation (Child exhibits curiosity, intiates tactile exploration)	Different Media clay food textures paint water mud grass Take-apart toys See fine motor skills p. 10
	IV. Tactual Tracing	In sand; mazes on raised surfaces (see pre-writing)
	V. Figure Ground	Find different textures within differet textures (Gross differences first-paste squares of a texture against a contrasting textured background.) Texture games Texture puzzles

	VI. Form Constancy (Avoid bringing attention to maerials which do change form such as glue, paint)	Vary the sizes and shapes of textures--Child finds the same texture regardless of its size, shape or color. Sort textures
	VII. Spatial Relationships	Imitate texture patterns Follow mazes Montessori boric tablets Texture box
Tactual Discrimination The Visual Discrimination section can be easily adapted to the tactile sense.	I. Similarities and Differences Stress similarities in the beginning	Matching Objects (no vision used) Textures Shapes and Sizes Vibrations Qualities wet large dry small hard curved soft straight hot heavy cold light Forms to raised outline
	II. Perceptual Sorting and Grouping	Match by association objects qualities - wet with water Match by class hard, soft, wet, dry, rough
	III. Tactile Memory	Same activities as under Visual Memory only tactually oriented
Olfactory Perception Olfactory Discrimination Gustatory Perception Gustatory Discrimination	These areas can be developed in the same ways as the Visual and Tactory senses. However, the child must be ready to work with these senses as they are somewhat more difficult to measure and work with.	

Auditory Perception (no specific response by child required)	Auditory Awareness A. Child reacts to sudden sounds (startle reflex) B. Child is aware of presence and absence of sound (no formal discrimination- child merely reacts) C. Child focus' attention on sound- "listens" D. Child reaches or moves toward sound (attempts to localize) Child becomes curious about sound sources. E. Child shows interest in making sound. Increased Vocalization.	Awareness is developed through sight, touch and hearing. Sound Sources Body Sounds Environment Sounds Noisemakers (instruments) Record Player, Piano Sing Speech- "No", "Child's name Babbling Auditory Games Rhythm exposure

Auditory Discrimination (A formal or Informal response is made by the Child) Prerequisites: Memory Skills Similarities and Differences Sequence Familiarity with object or toy used in Discrimination	Gross Sounds	
	A. Discriminate between Sound and Silence.	Child may be conditioned to a specific response at beginning.
	B. Discrimination between gross sounds	Sounds may signify specific activities.
	C. Recognition of Impulses 1. discrimination between one sound and many 2. narrow the differences between the number of beats. 3. vary the lengths and distances of beats.	Child watches teacher make the sound (touches source) Child manipulates the sound-Teacher and child may each have their own set. Teacher sounds object out of sight. Child sounds his own object. Later child will choose the source from a group
	D. Discriminate between Sound Sequences	Begins to associate meaning with familiar sounds
	E. Environmental, Animal and Human Sounds.	Match gross sounds
		Begin Figure ground discrimination. Child attends to one sound at a time.
	F. Localization	Vary distance, direction, intensity and duration.

C. Fine Discrimination

Sounds- child imitates sound heard. Babble syllables. Vary accents and order of sounds.

Vowels
  animal sounds
    moo
    baa
  toy sounds
    bang
    choo choo
  words where vowels predomina
    home
    green
    yellow
Consonants
  Voice and voiceless
  nonsence syllables
Words
  a. one syllable vs two or three syllable with different sound
  b. same syllable but differe sounds
  c. use words in sentences which require specific response

Expressions

familiar, color, number, nouns and phrases.
child must react or make a specific response to statements

Accents, Pitch and Intensity discrimination

Music	
A. Absence and Presence	Hear, See and Feel sounds and their sources in the beginning.
B. Continue work on Impulses	
C. Discriminate between song and instrument Between music and environmental, human and animal sounds.	
D. Follow simple rhythmic patterns	
E. Child sings along with music	
FINER DISCRIMINATION	
G. Between quality of sounds. Gradually narrow the difference between them. Use activities for A-E above.	Intensity Duration Pitch Inflection
Speech	
A. Awareness	Developed through: talking constantly singing imitating child's vocabizations playful sounds (brr, whee, Boo) rhythmic patterns Eventually child should respond to voice tones and name (this may or may not occur at al
B. Gross Discrimination	Speech vs Environmental sounds and music (figure ground too)

Visual Discrimination

- emphasis on concrete conceptualization

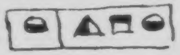
I. Similarities and Differences

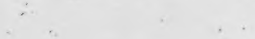
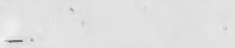
Begin with stress on similarities then go on to differences

Matching activities

- object to object
  - same size, color, shape etc
  - differs only in one above
  - differs in more than one
- colors
- colors
  - alike in shape, size and color
  - dissimilar in above- match by color only
  - Bead stringing
  - solid color with outlined color
  - pictures colored
  - sort objects according to color
- forms
  - puzzles of shapes
  - tracing
  - same color
  - different colors
  - blackened shape to silhouette
  - size variations
  - blocks (three dimensional shapes)
  - sticks (length, width or thickness)
  - shapes with different inner patterns
  - stepping game, board games, lotto, bingo
- Locate given object, form, color etc among other stimuli.
- Object to picture
- Picture to Picture
- Picture to Silhouette
- (Increase complexity to finer discrim.)

II. Perceptual sorting and grouping	Matching by Association begin with first matching steps (toothbrush with toothpaste)
	Matching by Class (keep it concrete) Foods Animals Toys
	Show child picture of object, child demonstrates its use
	Sort objects and pictures into categories
III. Visual Memory (refer to Getman)	Show various objects. Remove or child turns around. Add one object or remove one or change order. Child recognizes and identifies change.
	Matching designs or blocks. Teacher shows child design. cover it and child must reproduce it.
	Show a number of pictures. Turn over Give child matching pictures. Child places a matching picture where he thinks he saw it last.
	Hold up picture. Remove. Show child several pictures. Which one did you see?"
	What's missing. Place objects on table in a order. Objects then removed. Each object is handed to child and he is to place them in position held before removal.

PreReading Prerequisites: motor skills form perception and discrimination figure constancy figure ground visual memory sequencing knowledge of geometric forms Begin by putting labels on objects in room including name tags	I. Gross Basic Shapes (one at a time)	A. Circle walk a circle arm motions drive a car on a circle B. Square as above C. Triangle as above
	II. Fine Basic Shapes	Wooden puzzles match forms cut shapes stencil activities tactile discrimination look for shapes in environment activities with similar and dissimilar shapes form constancy and figure ground place shapes in different forms and positions place shapes against backgrounds of: textures colors designs on paper
	III. Learn varied shapes add new shapes	tactile recognition of shapes child arrangess shapes by size blindfolded child recognizes (matches) shapes in bag Dice games, lotto, bingo copy shapes from clay identify similar shapes  work of different sizes of varied shapes

IV. Recognizes combinations of shapes and manipulation of patterns	match shape patterns Imitate patterns with cutouts  Draw, copy and trace designs Parquetry blocks String bead patterns Lotto games Imitation of movement cards sort cards of line drawings completion of form 
V. Recognition of Manuscript Letters	sort by form begin with obviously different tactile letters matching same different V M A V continue tracing geometric shapes note relationship \ =AVX \ =YKWMNZ | =IHLFET) =SCO) =GBDJPU \ =Q

VI.	Begin word recognition needed skill sequencing grouping	colors - match color form colored word plain word label objects in environment lotto, bingo find identical word - dog cat pig dog memory work - show word briefly, child finds word among two words password match words to picture
VII.	Picture Interpretation	pantomine & talk about main idea or action of picture recall main ideas in series of pictures recognize & interpret emotions association skills find differences & similarities in series of pictures
VIII.	Begin Reading by Sight	line pictures up, child names pictures substitute words for pictures experience stories letters
IX.	See Kephart's Slow Learner Series for more advanced steps.	

Pre-Writing

Build on early prereading steps

Activity steps
- A. free hand
- B. Tracing
- C. Copying
- D. Drawing

Materials
- chalkboard
- templates or stencils
- paper

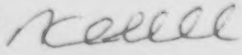
Proceed from large boundary (such as chalkboard) to smaller area (such as paper and boundarys within)

Gross movements to finer ones

Imitation in beginning

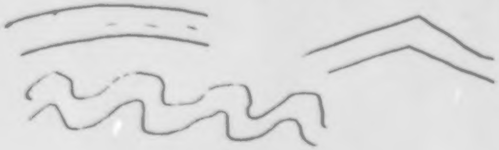
I. Scribbling

- A. single lines
- B. Repetitive lines
- C. "blocked out" form on page
- D. curved and looped lines

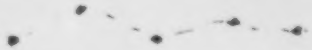


- E. spirals and overlaid circles

II. Channel Drawing

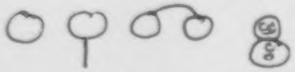


III. Dot Connecting



IV. Writing Exercises

A. Circle



B. Curves

1. plain curves))) ∩∩∩ CC
2. figures with curves

C. Horizontal lines

1. back and forth
2.

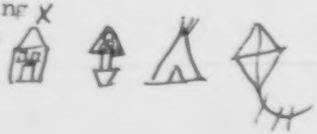
D. Verticle Lines

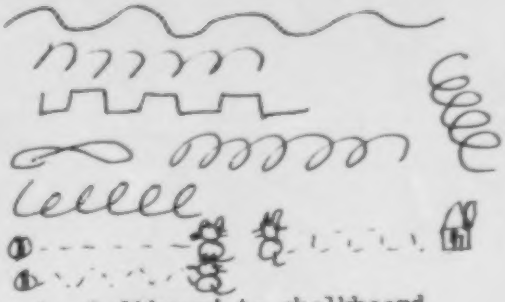
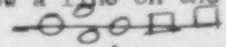
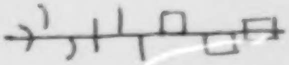
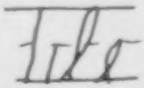
1. back and forth
2.
3. bisecting
4. combining curved and straight lines

E.

E. Oblique Lines (diagonal)

1. back and forth
2.
3. bisecting
4. designs



F. Continuity of Motions	
G. Transposing marking (copying)	1. chalkboard to chalkboard 2. chalkboard to paper 3. paper to paper
B. Concept below, above and on the line	1. put concrete OBJECTS on a line, above a line and below a line on the table  2. Child reproduces markings in relation to a horizontal line. 
I. Differentiation of size- tall, short big small	1.  2.
J.Begin writing letters	1. teach child with continuous strokes 2. copy and trace

Arithmetic

Prerequisites

Memory Skills
Sequencing
Form perception
Auditory and Visual Discrimination
Association Stimulation
Accurately percieves spatial orientation - front, back, up, down, etc.
Beginning Expressive Language

Begin concrete - paper exercises come much later.

See - Mathematics
Begins 1 and Arithmetic
Curriculim by Sisters
of St. Francis of Assissi

I. Number Awareness

Group objects
Take objects apart - Put together

Blocks
-show one block - child finds another
-discrimination of group of blocks from a single one
-put blocks into truck (many then just one)
-make a train
-make a tower (add one more)

Drawings scattered on Board (erase one)

Finger awareness (put one up, finger games)

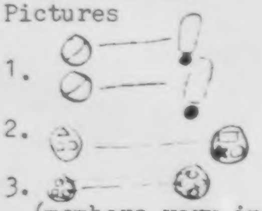
Rote counting (incidental use)

Pictures - gross and fine discriminatio of number groups

Body parts
Vocabulary - many, few, much, little, empty, full (emphasize incidentally)

II. Number Relationships

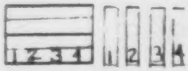
One to one correspondence
  a. objects
  b. pictures
rings on fingers
egg cartons, muffin tins, cups -
  place one object in each container, leave some empty, child finishes.
Child takes attendance in morning
Musical chairs
Pictures



(members vary in size, shape, color, uneven number)

III. Number Concepts	Make a book about each number as child learns it Number One - Child finds one object Child finds picture of one thing Point out things of which there is only one : head, nose, etc. Write symbol as child watches (hopefully association will occur it done frequently) Have child write symbol (begin large, then small) Continue with one to one correspondence. Number Two - Arrange objects (blocks) in piles of different numbers including groups of two. Child finds group of two Add two more to a group Take two from a group Add one more to ome to get two Daily use Match pictures of two objects Two ears, two eyes Sort groups of two and one Work with numerals Recognize two objects when seen

	Number Three- Same as above Additional discrimination Put into serial order
	Number Four- Same as above Note four legs to a chair table, animals, wheels
	Number Five- Finger plays, Toes
IV. Association of Numbers with Numerals, Configurations	Match number set with numeral Match numerals to objects, pictures Bingo Lotto Dice Pass word
V. Classification and Sorting Sets Awareness of sameness and differences	By size, shape, weight etc. Association matching Matching activities Several size dolls and matchin doll clothes- child puts right size doll dress on r right doll. qualities and character change within sets
VI. Relationship of Parts to whole and to each other	Puzzles, Cuisenaire rods
VII. Operations	Number facts to ten taught express and manipulate facts make lines- erase part of it Equality concepts Addition and Subtraction conce

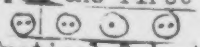
VIII. Additional Concepts	Conservation- the number of units within sets remain the same regardless of changes in arrangement Reversibility- "It's always possible to restore units to original positio without changing their nature" Development of them and many other arithmetic concepts may be done with Cuisenaire Rods
IX. Sequential Values	Montessori Cylinders Nesting materials Buttons- arrange by size Stacking rings Orders of numbers- put in sequence missing sequences dot to dot weave by number color by number  Calendar pages in a book Nursery rhymes Climb stairs and count Jump and count A. Gross discrimination two objects then progress to a series discriminate between different series of bbjects or pictures B. Sort and Group objects 1. one criterial 2. two criteria 3. increase number and variety of characteri

C. Like and Difference cards

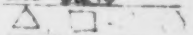
1. Which is the same as the first

Memory and sequence- turn card over and child arranges objects in remembered order

2. Which one is different from the first



3. Spatioal Orientation- altered. Which one is the same



D. Imiate and Match sequence Patte

Beads, blocks, pictures given order of objects.

child covers eyes, rearrange objects, child mus arrang in original order

E. Symbol sequence- Build along same steps as above

F. Put child through series of tasks, Does he know when one step is left out?

X. Counting

A. Rhythm or Movement	tap head, clap, jump, beat drum Board games
B. Manipulation	Build tower Put blocks away
C. Objects and Pictures (Worksheets may come when child is ready)	Count objects or pictures

XI. Measurement - Comparison

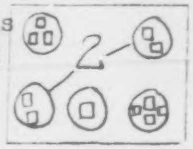
(see O'Neil
Teaching Arithmetic
to Deaf Children)

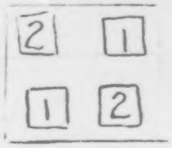
Arrange objects or pictures in order of the measurement working with
Match measurements
Match form and picture
Sorting exercises

Type of Measurement	
Length	Short, long
Value	Money (catalogue, matching, store)
Temperature	Hot, Cold-(Thermos, weather, cooking ice, thermometer)
Weight	Heavy, light
Content	Liquid and dry measures full, empty, cup, spoon
Surface	Rough, Smooth, slippery
Distance	Far, near
Capacity	Size- too big, too small, not enough
Location	Top , bottom, middle (see spatial relationships)
Speed	Fast, Slow- music, motor activities compare mechanical toys
Height	High, Low
Width	Narrow, wide
Order	Last, next, before, after
Shape	circle, triangle
TIME	
TIME	Use of time to designate certain activities
	Today, Tomorrow, Yesterday
	Calander- days of special interest
	Days of the Week- Clock
	Seasons (match clothing)
	Day, night, morning, afternoon Illustrate and describe activitie occurring with each Sort picture of activities Picture time line
	Special Time activities

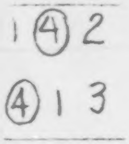
XII. Worksheet Ideas

Lacing Cards
Bead String

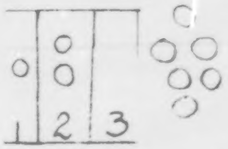




Color 1 red
Color 2 blue

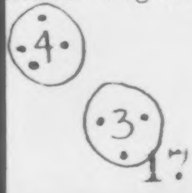


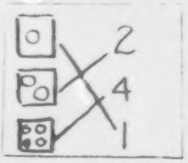
Circle 4's,
Color them
blue.

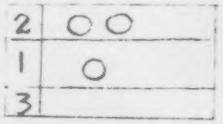


Paste correct number
of O's in each row.

Number Pegboard







Draw no.
of balls

COMMUNICATION

NOTE: Many theories, methods and practices have been proposed as ways to teach communication skills to deaf and deaf-blind children. Pros and cons have been established for all methods. The sequence and principles in this curriculum were gathered from many of these methods. This curriculum offers different aspects of these sources and is a suggested approach toward communication teaching. It is by no means the only solution or a wholly "correct" one. This section is labeled COMMUNICATION and though no specific separation is made between speech and language, it is not to be concluded that these are to be equated. The areas of speech and language are so interrelated that it seems appropriate for this curriculum to speak of total communication.

Language Instruction	Areas of Instruction	Steps in Language Learning
	Conversation (Both a specific period of the day set aside for conversing about things of interest to a child AND the natural language occuring throughout the day - See Groht) Receptive Language (Speech reading) General - Incidental Specific - period of day set aside for specific work. Auditory training - (see p. 27) Expressive Language That which occurs throughout the day during News, etc. as well as a specific period for specific expressive language.	1. Present meaningfully 2. Imitation 3. Remind (prompt use) 4. Spontaneous Use

Speech Instruction	Areas of Instruction	Steps in Teaching Speech (Correction)
II. Real Speech - Specific speech lessons where child is expected to produce accurate sounds or words. Speech play may be continued for fun. Child must be READY for this stage as speech is to be enjoyed and used (correctly) by him.	I. Speech preparation or Play - Comes before specific speech training. Child's speech is not corrected. Encourages child to use his articulators and vocalize and become interested in speech - babbling, singing, imitate child's vocalizations, Use all senses - tap child's vocaliz. If child vocalizes only during certain periods or activities in the day then "speech play" periods done at that time.	1. Imitation (preferably in whole words particularly for correction) 2. Localization or Isolation of speech sounds through TVA. 3. Manipulation of child's articulator (AVOID FORCING SPEECH)

AVOID TENSION AND EXCESS EXAGGERATION!!

Communication Readiness	Evidence of Inner Language Reaction to environment and to others (responds) Mutual Imitation Imagery (searches for a wanted object) Object Concept Awareness of self and others Causality Interest in communication Attempts to express self; makes needs known Begins to respond to outside communication (receptive language) Watches faces or hands (gestures) Use of own gestures Perceptual discrimination ability Capacity to focus attention stimuli Memory skills Sequencing skills Can be taught a few concrete simple signs Anticipates situations from a clue-object, gesture, or sign Vocalizes or babbles Acceptance of handling and Tadoma Position	

Expressive Speech and Language	I. Vocalizations A. Spontaneous and Random Sounds B. Expression of feelings of comfort and discomfort. C. Attention getting Vocalizations D. Imitates sounds, inflection, patterns, gestures, and facial expressions (depends on child's level) E. Jargon (random) Babbling without meaning. F. Conversation or Social Babbling (Vocalizations have meaning to child, child attempts to communicate.)	crying, cooing, sucking, swallowing Activities to develop the articulators - blowing, sucking, lick peanut butter, chew, tongue and lip exercises.
	II. Single Word A. One or more useful words with broad references. B. Meaningful words -Simple expressions -A few nouns 1. refers to single particular object 2. refers to several different types of same object -Reference to self by name C. Nouns used as Verbal Force D. Response to questions with yes or not E. Inference of question with single word	

III. Two Words

	Laura milk.
A. Nouns express sentences	Daddy car.
B. Possessive Case	John's car. for Sue.
C. Simple Negative	No bed. Not bad.
D. Word and Comment	Big dog. Pretty dress.
E.	Mamma fix.
	Donna fast.
	Donna fell. It's brok
E. Questions	Where's Sue? Coat off
F. Expression	Wake up. Help me
	Thank you. No more.

IV. Three Words

A. Combination without verb	Hurry home.
	Donna home car.
B. Combination with verb	I go fast. Sue gave b
C. Addition of Prepositional phrases	at home
	in the box
D. Begins use of Pronoun(I,ME,MY)	No, that's mine.
E. Negatives	I don't want
F. Simple Sentences	Isaw Daddy. I go home.
G. Questions	Jill home Friday?
	Who's that?
H. Expression	Time for Juice
	Wait a minute

V. Four Words

A. Continue is same manner
Add:
B. Greater use of past, future, negatives and pronouns
C. Use of and
D. Plural of nouns
E. More complex questions

Receptive Language Lessons Achieve understanding of Words	A. Nouns Is it meaningful? Is it visible? Can it be used in a variety of Activities? Is it of interest to the child? Is it useful to the child?	Use object first, then picture General lipreading - use word constantly Specific - work on a specific word (Use whole sentence, stress noun) Types of Responses 1. Conditioned Response - the object is in front of child when word is presented. 2. Overt Response - the object is out of immediate sight of child when word is given.
	B. Verbs C. Adjectives	Action verbs come first Color words come first blue (bl ue not b l ue) yellow Number words Prepositions, pronouns, & conjunctions incidentally
Expressive Language (manual or) Use of Oral Language Child understands the Power of Language	Select a word that: will get action the child will use has many activities is completely different from receptive language word. (itis often a verb) is visible	Push Pull Up Open Off On
	Avoid association of word with a particular object.	In a specific lesson teaching use just the word to be stressed to avoid confusion and to direct attention on the expressive word. Say, "open". not "Open the box" (confusion will occur between open and box).

Language Concepts- Primary Level (See Project Life Curriculum) (See Buell)	I. Self Concept	
	A. Identity	Name 1. Self 2. Others Age Boy-Girl Concept
	B. Body	Parts Function (see, smell, eat, drink, walk, jump, pull, push) Self care (wash, bath, brush, bathroom) Growth (tall, short, heavy, big)
	C. Physical Needs	Food Kinds Meals Preparation (cook - how?) Origination Clothing What Why, where, when Weather Occasions Material Care Shelter Types Material Parts
	D. Feelings	Physical needs (hungry, sick, tired) Emotions (sad, happy, angry) Showing Feelings (smile, cry, laugh)
	E. Everyday Activities	Follow Routines (vary complexity depending on child's readiness) wake up, dress, eat, school, etc. Certain Activities occur same time every day - wake up 7:00 lunch 12:00 Certain Activities occur in sequence - before, after, Recreational Activities - all year, seasons, by self

II. Social Relationships	
A. Family members	Mother, Father, Sister, Brother
B. Members have different Characteristics	Ages, sizes, looks
C. Members have first and last names	Members call different names by different people All have same last name
D. Each Member has a different Job	work, school, house, wash dishes
E. Neighbors	
F. School People	teacher, principal, secretary
G. Community Helpers	Dr., Dentist, Priest, Milkman, Mailman, Police, Piolet, Clerk
III. Physical Environment	
A. Home	Rooms, Pets, Property, Toys, Activities, Animal Homes
B. Neighborhood	City- streets, stores, park Country- farm, field, hill
C. School	Classroom, teacher, activities routine, rooms (Bldgs) cottage
D. Community	Stores (kind)- Recreation- Church- Services (restaurant, gas station, Fire sta., Hospital) Transportation (train, bus, plane) Distances- lettes, travel Activities- city - Farm

Real Speech Checklist

Voice Quality:

Nasal
Breathy
Weak
Pleasing
Gutteral

Voice Placement:

Satisfactory
Too High
Too Low
Uncontrolled

Breath Control:

Lacking
Average

Rate or Rhythm:

Average
Slow
Fast
Labored
Choppy

Ability to Imitate:

Average
Good
Lacking

Use of Speech:

Spontaneously
With Prompting
Not at all

Intensity:

Too Loud
Too Soft
Average

Duration:

Prolonged
Shortened
Average

Pronunciation - Consonants, Vowels, Whole Words

Clear
Unclear

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May 21, 1968

CHILD STUDY CENTER

UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER
DEAF-BLIND PROGRAM

South Central Region for Services to Deaf-Blind Children
OEG-0-9-536003-4093 (609)

Practical Life Activities

I. General Description of Practical Life Activities

- A. Sequence
- B. Points of Interest
- C. Control of error

II. Why these activities appeal to children and are beneficial to the growth of the child.

- A. Children's interest in doing what they see adults do.
- B. Children's appreciation of ordered and sequenced activity.
- C. Sense of accomplishment, completion, and seeing end result of activity.
- D. Gaining of skills that will help the child become more independent.
- E. Development of concentration ability and attention span in the child.
- F. Exercise of fine (small) and gross (large) motor movements. Refinement of muscular co-ordination.
- G. Opportunity for presentation and development of language concepts.

III. Demonstration of Practical Life Activities.

- A. Folding
- B. Pouring
- C. Watering Plants
- D. Dusting
- E. Washing Hands
- F. Washing a Table
- G. Shoe Polishing
- H. Polishing Silver
- I. Peeling Carrots

J. Dressing Frames

1) hook and eye frame
2) tying frame
3) buckling frame
4) buttoning frame
5) lacing
6) snapping
7) zipping

IV. Discussion

V. Teachers Participation

A. Experiment with one or two of these exercises bring comments and suggestions for improvement and/or extension of the exercise.

B. Develop your own Practical Life Activity.

Including:

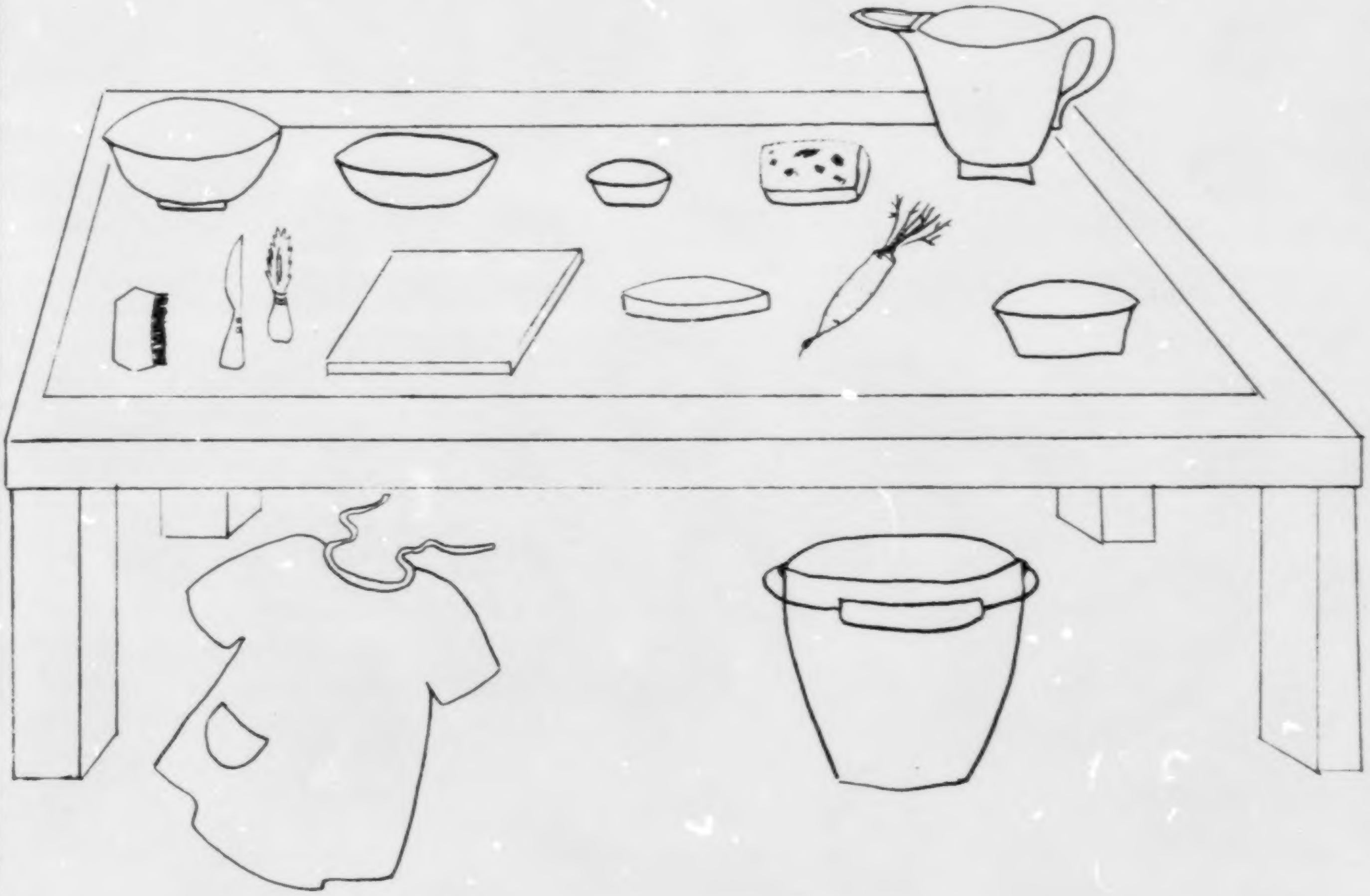
I. Material to be used in exercise.

II. Subjects with whom to be used.

III. Procedure

- A. Presentation
- B. Description of the exercise
- C. Points of Interest
- D. Control of error

IV. Aim of the exercise.



Peeling Carrots

1. Put out objects on mat, as pictured above, (put on smock)
2. Pour water in largest and smallest bowls
3. Scrub carrot in largest bowl with the brush
4. Slice ends off carrot on board, put ends in 2nd bowl
5. Peel carrot with peeler, put peelings in 2nd bowl
6. Slice carrot, wash slices in 3rd bowl
7. Put slices on small dish or plate
8. Wipe knife, peeler, spills with sponge
9. Replace supplies, dump water in pail, throw away peelings
10. Pass carrot slices around to everyone

Note: Peel away from self
Hold knife with thumb and first and second fingers.

Variations: Peel potatoes, cut string beans, chop nuts, dice vegetables, shred vegetables for salad.
Also try using graters.

Watering Plants

1. Spread newspapers on the floor.

2. Place extra saucer down.

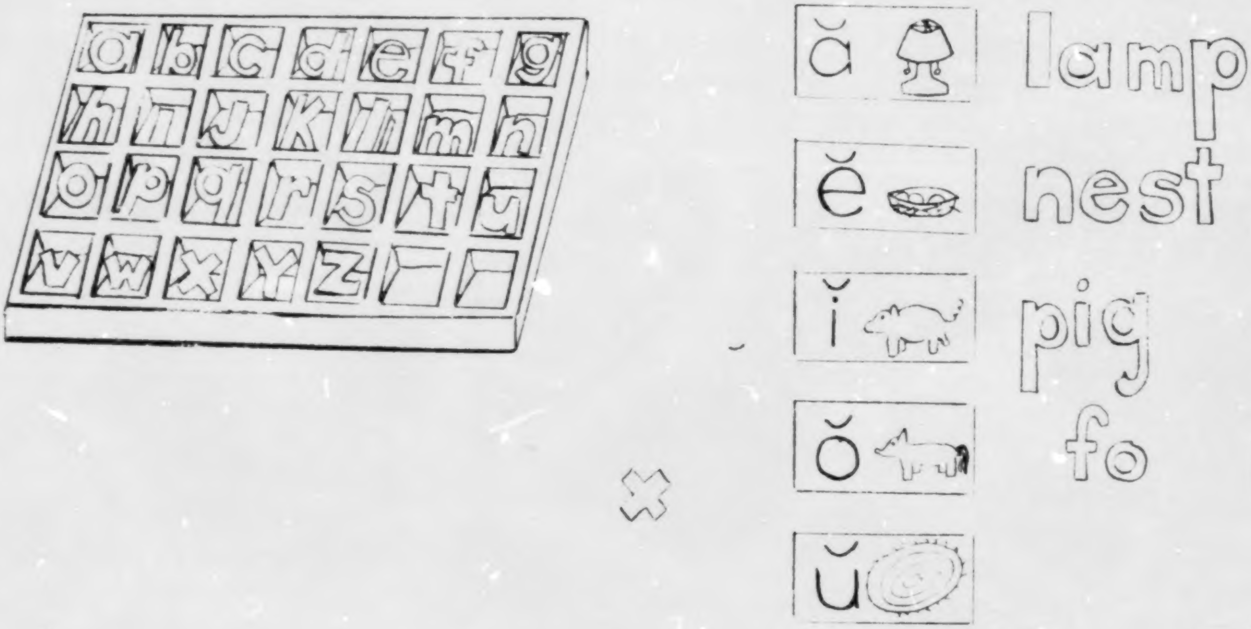
3. Bring plant to saucer.

4. Water plant; let water drain through.

5. Remove dead leaves and flowers from plant.

6. Return plant to its place and clean up work area.

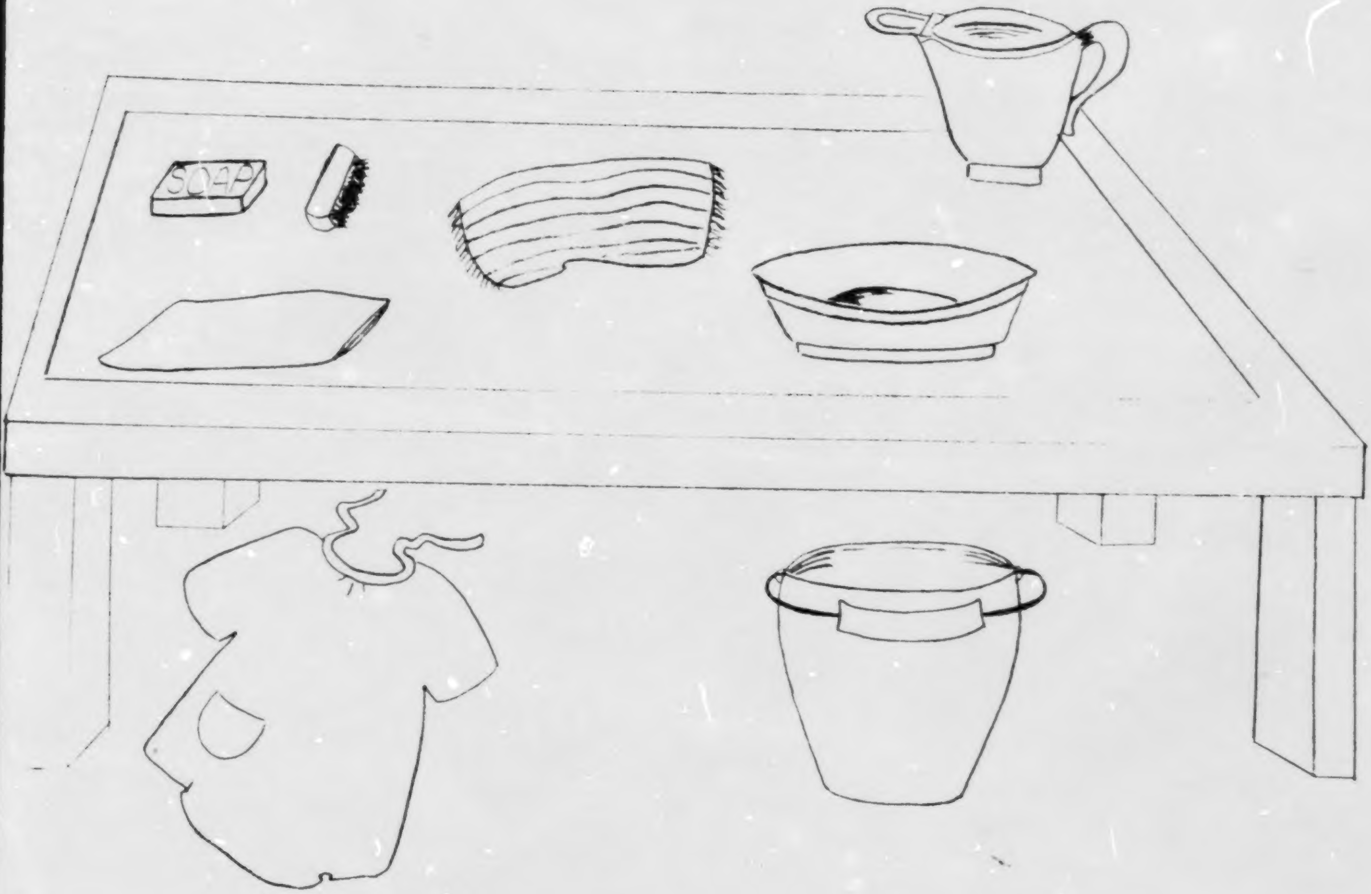
Variations: Use plants which must be watered from dish--
i.e. African Violets. Use plants which grow
in water--i.e. Philodendron, Hyacinth, Narcissus.


a b c d e f g
h i j k l m n
o p q r s t u
v w x y z
ă lamp
ĕ nest
ĭ pig
ŏ fo
ŭ

Phonetic Word Building Box and Labels

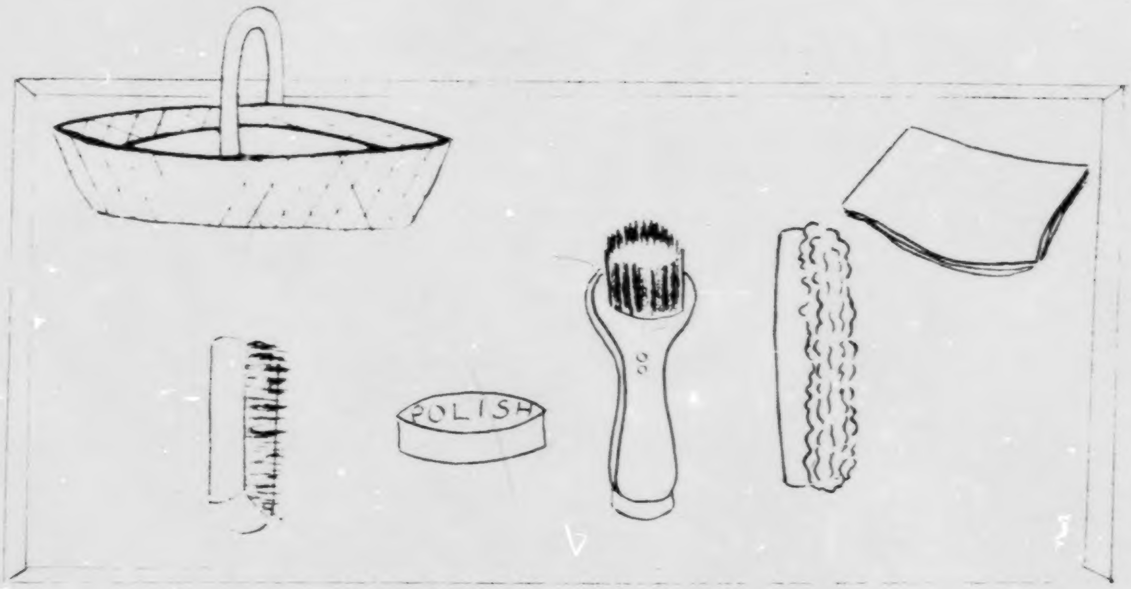
1. Put on rug or mat, the large box of cardboard letters
   consonants are red
   vowels are blue
2. Put out pictures of objects that are easy to identify and can be spelled phonetically (i.e. cap, hat, bat, etc.).
3. Show a picture, pronounce each sound slowly, then quickly
4. Take each letter out of the box as you make that sound
5. Build the word to the right of the picture (Build other words with the same vowel sound.) (Later add the envelopes of labels)

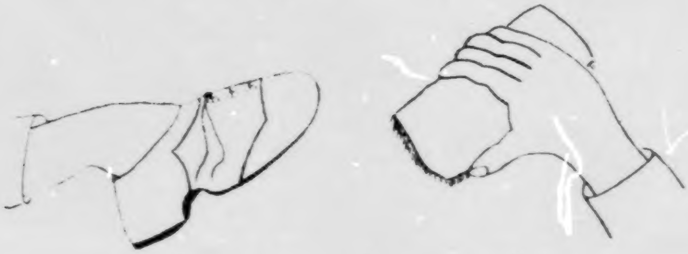
Variations:
1. Replace single letters in words to make new words, like "cat" replace the c with h, m, r.
2. Build longer phonetic words
3. Instead of pictures, use names of objects in the room
4. Use felt letters on felt board
5. Play games with words or commands, on slips of paper in a little box. i.e. skip, run, etc. to see if they know the word.



Washing Hands

1. Put on apron, supplies on mat as pictured, pail under table
2. Wet hands, palms down, then up
3. Soap hands
4. Soap each finger
5. Wet brush - scrub each nail
6. Rinse brush - replace
7. Rinse hands
8. Dry hands, dry each finger
9. Fold towel
10. Dump water into pail - away from child
11. Shake basin
12. Wipe up spills, basin, table, etc. with wiping cloth
13. Put away supplies





Shoe Polishing

1. Put out equipment in numbered order, or as above.

2. Place hand inside shoe.

3. Scrape all dirt from sole, bottom, edge.

4. Brush shoe with stiff brush.

5. Polish ½ shoe lengthwise.

6. Brush with soft brush. Repeat steps 5 and 6 with other ½ shoe.

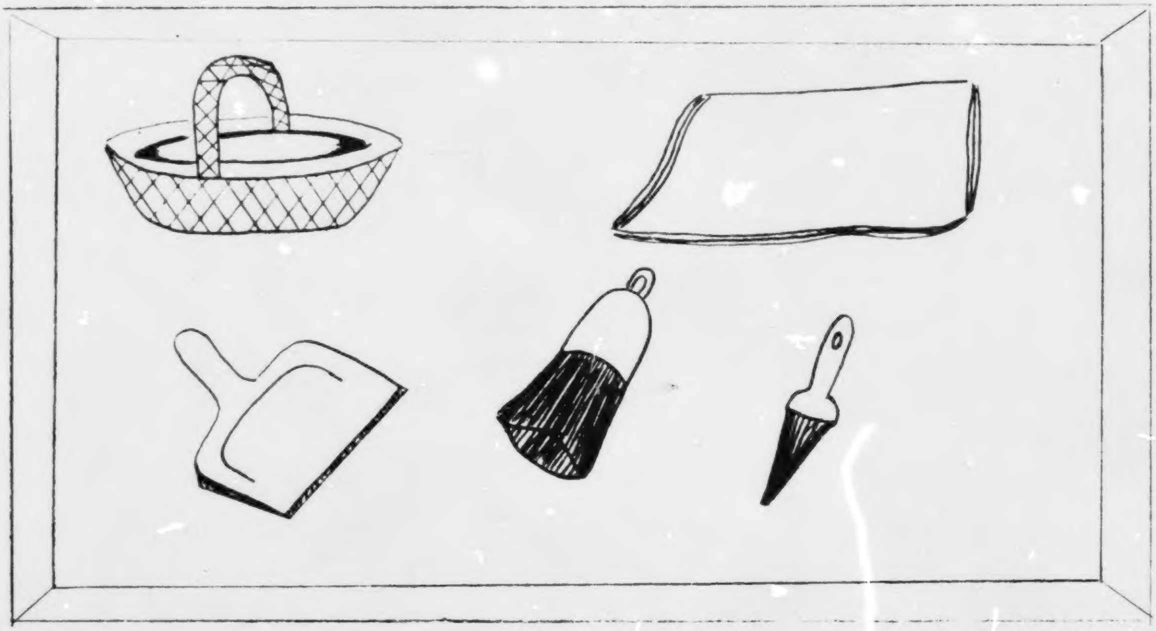
7. Rub soft cloth or chamois over whole shoe.

Variations: Use cream or liquid polish; polish leather toilet kits, luggage, etc.

Pouring

1. Grip handle with thumb and two fingers - use one hand consistently.
2. Pour so that the vessels do not touch.
3. Direct the water to the middle of the empty vessel.
4. Pour slowly - shake the last drop.
5. Use towel or sponge to wipe lip of pitcher, and spills.

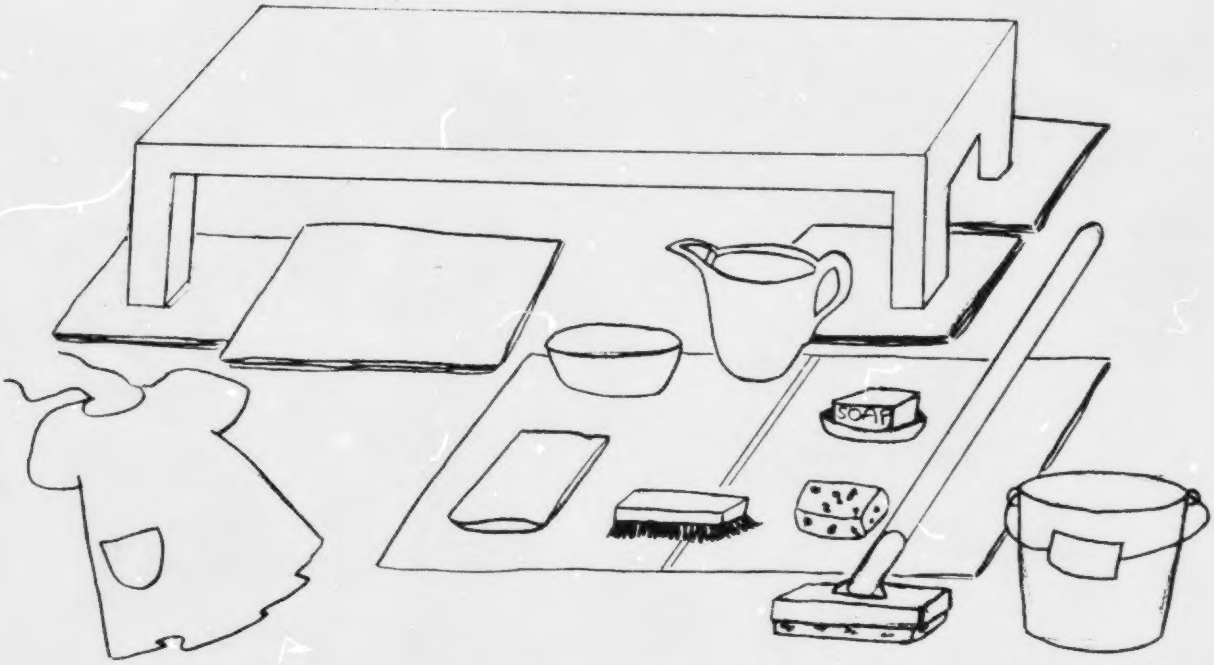
Variations: Pour rice - pick up spilled rice with thumb and fingers.



Dusting

1. Starting at top of table or chair, dust downward, with soft cloth.
2. Dust away from self.
3. If furniture has grooves, or designs, use broad brush.
4. Use pointed brush for crevices.
5. If cloth becomes dirty, fold so that clean portion shows.

Variations: Dusting with old-fashioned feather duster; dusting venetian blinds; dusting china bric-a-brac.



Washing a Table

1. Put on apron, (or smock), newspapers under table, supplies on mat, pour water in basin.

2. Wet sponge in basin, rub lightly over soap in soap dish.

3. Wash ½ table using circular movements.

4. Dip brush in water, shake off excess, soap, wash spots off table.

5. Wipe off table with sponge, rinse sponge.

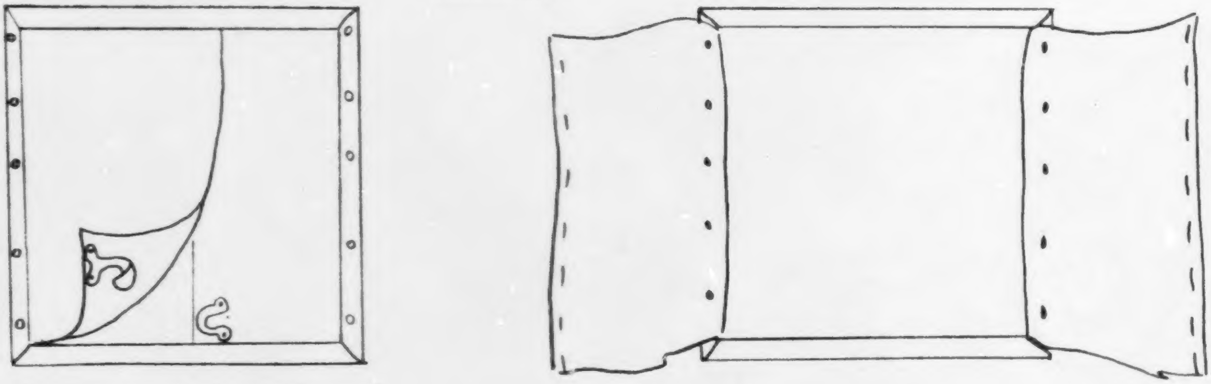
6. Pour soapy water in pail.

-----------Repeat for 2nd half of table----------

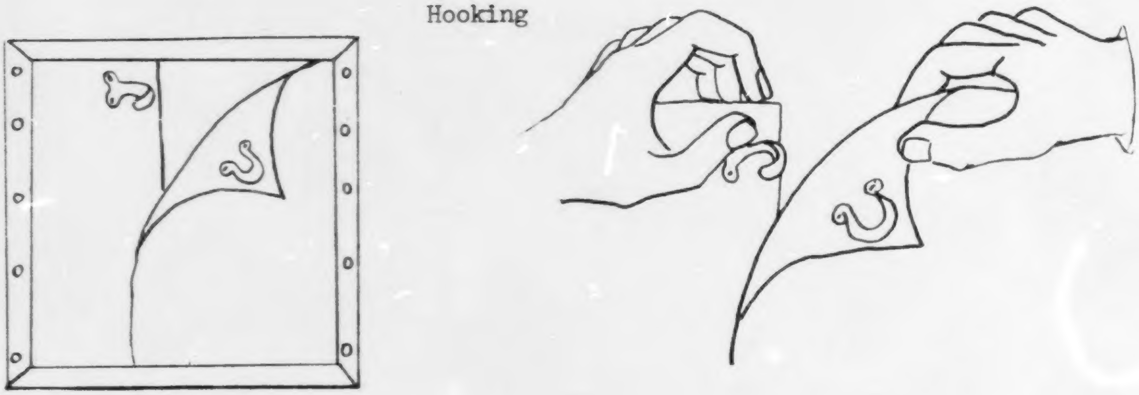
7. Wipe table with towel.

8. Clean up area with mop, throw away newspapers, return supplies

Unhooking



Hooking



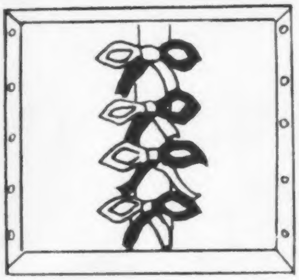
Hook and Eye Frame

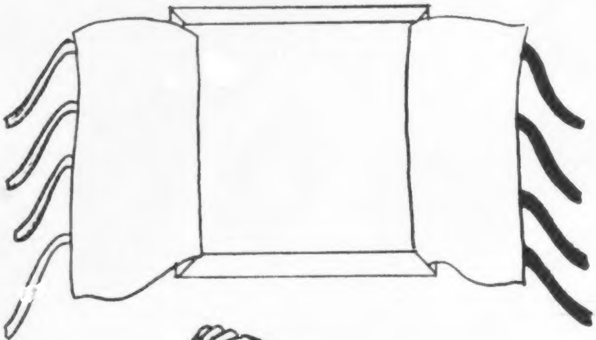
Unhooking:

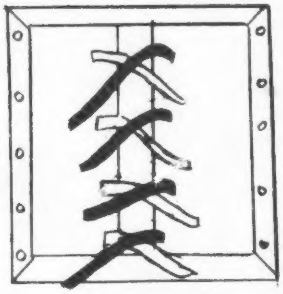
1. Start at bottom, lay back narrow edge of right side to see the hooks.
2. Begin with the bottom hook, release all hooks, lay back flaps.

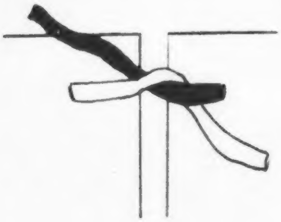
Hooking:

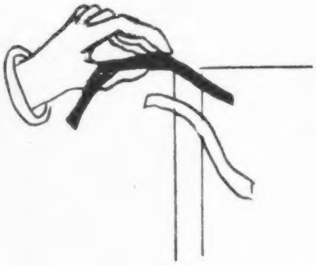
1. Start at top, bring right flap over left.
2. Turn back edge to find hooks and eyes.
3. Put left hand with fingers under the top edge, with the thumb on top near eye.
4. Put right hand with fingers under hook with the thumb close to hook on top.
5. Place hook to left of eye.
6. Pull hook to right to secure hook and eye.
   - - - Repeat all hooks - - -
7. Lay flap over to cover hooks and eyes.

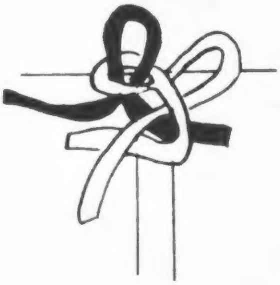






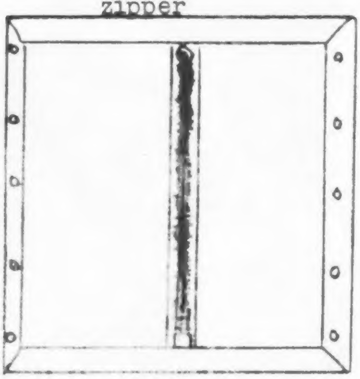




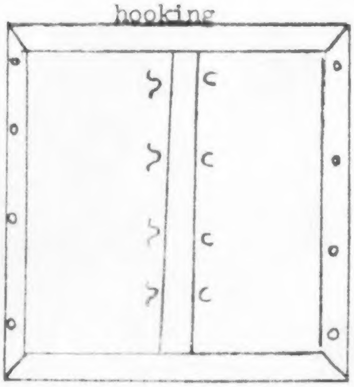


Tying Frame

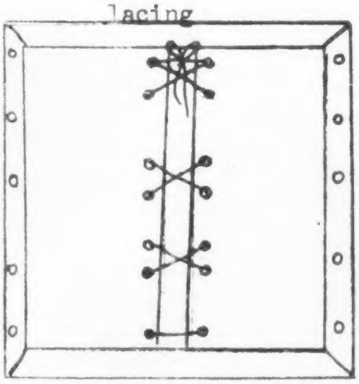
1. Place tying frame so that white ribbons are on the left, red ones on the right.
2. Untie by pulling out white, then red ribbons (or strings).
3. Lay open.
4. Start at top - cross all red strings to left, then all white over them to right side.
5. Wind white string over red to make a twist.
6. Make a loop with the red with left hand.
7. Wind white around red loop and push through the red loop.
8. Pull loops and ends until they are even.
9. Tie all bows, from the top to the bottom.



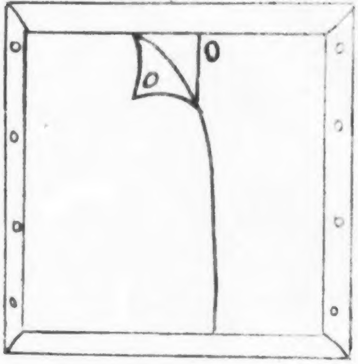
zipper



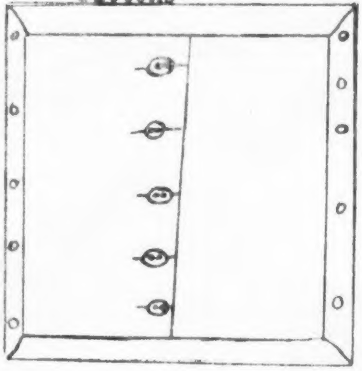
hooking



lacing



snaps



buttons

Dressing Frames

General Directions for all Frames - zipper, hooking, lacing
snaps, buttons,
(also buckling, tying, etc.)

1. Undo frame.
2. Lay fabric back, to the sides of the frame.
3. Move hands downward when fastening, upward when unfastening.
4. Align fabric in center of frame.
5. Do not force material.
6. Use left hand as a cushion for work in snaps, hooks, and other frames where pressure is needed.

Variations: Dress dolls, dress each other, tie hair ribbons, zip or buckle briefcases, etc.

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